

A text book of **SHALAKYA TANTRA**



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syllabus
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INDEX

Sr. No	Topic	Page no.
1.	Samanya Chikitsa	5
1.1	Study of therapeutic procedures like Sveda, Kavala, Gandusa, Dhuma, Murdhni Taila, Nasya, Pratisarana, Karna Purana, karna prakshalana, nasa prakshalana Mukha Lepa.	5
1.2	Ashtavidha shastrakarma and anushastrakarma used in the treatment of Shira, Karna, Nasa evam Mukha Rogas.	11
2.	Shiro Roga	18
2.1	Importance and Superiority of Shira.	18
2.2	Number, general etiology, pathology, and cardinal features of shiro rogas and kapalgata rogas along with their common line of management/treatment.	18
2.3	Detailed study of Vataja, Pittaja, Kaphaja shirashoola, Suryavarta, Ardhavabhedaka, Khalitya, Palitya.	20
2.4	Brief Knowledge of Raktaja shiraha shoola, Krimija shiraha shoola, Kshayaja shiraha shoola & Sannipataja shiraha shoola, Ananta vata, Indralupta, Darunaka.	20
2.5	Detailed study of Headache, Migraine its differential diagnosis and treatment.	20
3.	Karna Roga	43
3.1	Detailed study of Rachana and Kriyasharir of Karna (Ear) & Shravanendriya as per Ayurvedic and modern view, Examination of Ear along with instruments/equipments required in Ear examination.	43
3.2	Detailed study of etiology, pathology, classification, clinical features, and management of diseases of Karna – karna shool, karna nada& shweda, Badhirya, karnastrava, karna pratinaha, pootikarna, karnagoothaka, karnavidradhi.	50
3.3	Brief Knowledge of karna kandu, karnapaka, karnarsha, karnarbuda, krimikaran & karnapali rogas, Karna sandhana(Auroplasty), fundamentals, method and Vaikritpaham	56
3.4	Detailed study of Otagia, ASOM, CSOM, Deafness, wax including their etiology, pathology, clinical features, differential diagnosis, complications, and medical & surgical management	61
3.5	Brief Knowledge of Otomycosis, Otosclerosis, Tinnitus, Vertigo, Foreign body in ear and Noise pollution.	67
4.	Nasa Roga	72
4.1	Detailed study of Rachana and Kriyasharir of Nasa (Nose and paranasal sinuses)& Ghranendriya as per Ayurvedic and modern view, Examination of Nose. along with instruments/equipments required in Nose examination.	72

4.2	Detailed study of Pratishyaya, Dushta pratishyaya, Nasanaha, Kshavathu, Nasagata raktapitta & Nasarsha.	78
4.3	Brief Knowledge of Putinasa, Bhranshathu, Peenasa, Apeenasa, Nasarbuda, Nasashotha, Dipta, Nasa Sandhana.	85
4.4	Detailed study of Rhinitis & Sinusitis Epistaxis, Nasal Polyp, DNS, Foreign body including their Etiology, pathology, clinical features differential diagnosis and medical & surgical management	89
4.5	Brief Knowledge of Nasal trauma, Tumours of nose and Para nasal sinuses.	101
5.	Mukha Roga (Diseases of Oral Cavity)	105
5.1	Detailed study of Rachana and Kriyasharir of Mukha Rogaadhisthana– oshtha, dantamoola, danta, jihva, talu, gal, sarvasara (Oral cavity) as per Ayurvedic and modern view along with their Basic examination including instruments/equipments required for the examination	105
5.2	Mukha and Danta Swasthya as per ancient and modern concepts including prevention of malignancy of oral cavity.	114
5.3	Number and general aetiology, pathology, cardinal features of Mukha rogas along with their common line of management/treatment.	117
	Oshtha Roga (Diseases of Lips)	120
1.	Detailed study of Etiology, pathology, classification, clinical features, and management of - Oshtha prakopa, Khandoshtah	120
2.	Brief Knowledge of Gandalaji, Jalarbuda, Kshataja Oshthaprakopa	123
3.	Knowledge of cleft lip.	124
	Danta Mula Gata Roga (Diseases of Periodontia)	125
1.	Detailed study of Etiology, pathology, classification, clinical features, and management of - Shitada, Dantaveshta, Upakush, Danta Nadi, Danta Vidradhi, Adhimansa	125
2.	Brief Knowledge of dantapupputaka, Saushira, Mahasaushira, Danta Vaidarbha , Paridara, Vardhana.	129
3.	Detailed study of Etiology, pathology, classification, clinical features and management of Gingivitis, Apical abscess, Periodontitis (Pyorrhoea).	131
	Danta Roga (Dental Diseases)	136
1.	Detailed study of Etiology, pathology, classification, clinical features, and management of Daalan, Krimidanta, Dantaharsha, Danta sharkara, Hanumoksha	136
2.	Brief Knowledge of karala, Bhanjanak , Kapalika, Shyava Danta, Danta bheda,	140
3.	Danta chaal, Adhidanta, Danta Utpatana including Jalandhar bandha method and Danta Purna.	141
4.	Knowledge of Dental Caries, Dental Tartar & Tooth extraction.	143

	Jihwa Gata Roga (Diseases of Tongue)	148
1.	Detailed study of Etiology, pathology, classification, clinical features, and management of - jihva kantaka (vataja, pittaja and kaphaja)	148
2.	Brief Knowledge of Upajihva, Adhijihva, Alasa.	149
3.	Knowledge of Glossitis, Tongue Tie, Ranula, Benign and Malignant Tumors of tongue.	151
	Talu Roga (Diseases of Palate)	156
1.	Detailed study of Etiology, pathology, classification, clinical features, and management of - Gala shundika, Talushosha, Talupaka	156
2.	Brief Knowledge of Talupupputa, Adhrusha, Kacchapa, Talvarbuda, Mamsasanghata.	158
3.	Knowledge of Cleft palate, palatitis, uvulitis and tumours of the palate.	160
	Kantha and Gala gata Roga (Diseases of Pharynx & Larynx)	161
1.	Detailed study of Etiology, pathology, classification, clinical features, and management of - Tundikeri, Kantha shaluka, Gilayu, Galaganda, Swrabhedha, Galavidradhi.	165
2.	Brief Knowledge of Rohini, Galashotha, Kantharbuda, Kanthavidradhi, Galarbuda Galaugham, Vrindam, Ekavrindam, Valaya, balasa, Shataghni, Swaraghna.	169
3.	Detailed study of Etiology, pathology, classification, clinical features, and management of - Pharyngitis, Laryngitis, Tonsillitis & Adenoiditis	174
4.	Brief Knowledge of foreign body in the throat, Carcinoma of Larynx & Pharynx, Dysphagia Diphtheria & diseases of salivary glands.	182
	Sarvasara Mukha Roga (Generalised mucosal affections of the oral cavity)	191
1.	Detailed study of Etiology, pathology, classification, clinical features, and management of Sarvasar mukhapaka	191
2.	Brief Knowledge of urdhvaguda, putivaktrata, mukharbuda	193
3.	Detailed Knowledge of Stomatitis.	194
6.	Miscellaneous Diseases	197
6.1	National Programme for Prevention and Control of Deafness.	197

SHALAKYA TANTRA PAPER 2

SAMANYA CHIKITSA

1. Study of therapeutic procedures like Sveda, Kavala, Gandusa, Dhuma, Murdhni Taila, Nasya, Pratisarana, Karna Purana, karna prakshalana, nasa prakshalana Mukha Lepa.

Swedana:

Process of svedana is used as a preparatory step before performing panchakarma like vamana, virechana etc.

Types:

- | | |
|------------------|----------------|
| 1. Tapa sweda | 3. Ushma sveda |
| 2. Upanaha sveda | 4. Drava sveda |

Properties:

Swedana dravyas are guru i.e., heavy, teekshna i.e., penetrating and ushna i.e., having hot potency.

Indications:

Swasa, kasa, pratishyaya, hikka, adhmana, vibandha, svarabheda, vata vyadhi, kaphaja diseases, ama, stambha, gaurava, angamarda, Katigraha, parshva graha, kukshigraha, hanugraha, khali, Dhanurvata, arbuda, granthi, urustambha.

Contra indications:

Shoola should be totally avoided or only mrudu i.e., mild fomentation should be performed at eyes, testes, and heart as well as at groin also.

Features of samyaka swedana:

Cold and clammy body parts get warm up; pain stiffness is relieved; further of disease get regressed.

Moreover, it bestows softness to the body.

These are the features and benefits of appropriate svedana.

Kavala – gandusha:

Definition:

सुखं संचार्यते या तु मात्रा स कवलः स्मृतः ।

अ संचार्यते य तु मात्रा स गण्डूषः प्रकीर्तितः ॥

The retained fluid which can be easily moved from side to side in oral cavity is called kavala (gargle) whereas when such movement of retained fluid is not possible due to tight filling of mouth is called gandusha.

Types:

- | | |
|-------------------------------|--------------------|
| 1. Snaihika: vata | 3. Shodhana: kapha |
| 2. Prasadana / shamana: pitta | 4. Ropana |

Indications for kavala / gandusha

Shiroroga, karna roga, Mukharoga, netra roga, kantharoga, lalasrava, manyastambha, mukhashosha, aruchi, Peenasa, nausea, stupor.

Duration for retention of kavala / gandusha:

Retained till mouth gets filled with kapha dosha and nasa and lachrymal secretions are induced.

Benefits of retention of gandusha:

Joints of jaw become firm

Voice becomes deep and melodious, strengthening of facial musculature is observed, the taste of food accentuates.

Thirst gets lessened, lips remain soft and smooth without cracks.

Teeth become firm

Features of samyaka gandusha:

Pacification of disease thereby bestows health status of contentment feeling of lightness due to cleansing action and lustrous sense organs or indriya prasannata.

Dhuma nasya / dhuma:

Dhumapana pertaining dosha:

1. Vataja: snigdha / snaihika
2. Vatakaphaja: madhyama / prayogika
3. Kaphaja: teekshna

Types:

Sushruta:

- | | | |
|--------------|-----------------|-------------|
| 1. Prayogika | 3. Vairechanika | 5. Vamaniya |
| 2. Snaihika | 4. Kasaghna | |

Charaka:

- | | | |
|--------------|-------------|-----------------|
| 1. Prayogika | 2. Snaihika | 3. Vairechanika |
|--------------|-------------|-----------------|

Acharya charaka has indicated following 8 timings for dhumapana:

- | | | |
|---------------|-------------------------|-----------------|
| 1. After bath | 4. After sneezing | 6. After nasya |
| 2. After meal | 5. After cleaning teeth | 7. After anjana |
| 3. After vama | | 8. After sleep |

Age limit for the dhumapana is from 12 to 80 years of age.

Indication of dhumapana:

Netra → netra shoola, abhishyanda, netra srava

Shira → shira shoola, shiro gaurava, ardhav bhedaka, khalitya, Palitya, shiro roga

Karna → karna shoola, karna srava

Nasa → kshavathu, pinasa, putinasya, nasa srava

Mukha → danta shoola, Upajihvika, swara bheda, manyastambha etc.

Contraindications:

In frightened person, shoka, krodha, fatigued, intoxicated, murccha, daha, trushna, raktapitta, chardi, belching, adhmana, after virechana, niruha basti, amavastha, old, pediatric, pregnant women, weak person, dehydrated etc.

Inhalation of different types of dhuma:

- | | |
|----------------------------|--------------------|
| 1. Prayogika → nasal | 4. Kasaghna → oral |
| 2. Snaihika → oral & nasal | 5. Vamaniya → oral |
| 3. Vairechanika → nasal | |

Features of appropriate dhumapana:

- Feeling of wellbeing in organs like hrudaya, kantha, mukha, nasa
- Light feeling in ura, kantha, and shira
- Pacifying the vitiated dosha, liquification of kapha etc.

Shirobasti / Murdhani taila:

Types of murdha taila:

1. Shiroabhyanga
2. Sechana
3. Pichu
4. Shirobasti: holding medicated oil in a leather strip wrapped around head.

Benefits of murdha taila:

Murdha taila prevents falling, greying, and matting of hairs; cracking of skin of scalp, vataja Shiroroga

It improves strength and keenness of sense organs, voice, lower jaw, and head.

Procedure of shirobasti:

- After general cleansing measures, snehana and swedana of head is performed.
- Shirobasti should be performed either in evening or at night.
- Patient is asked to sit on a stool, of the height of knee, which is well cushioned and comfortable.
- A soaked cloth ribbon of 3 angula width is tied around the head, touching the lower edge of hairs, and covered by a nice paste of masha.
- Then a 12 angula wide strip of leather, which is well lubricated and softened, is wrapped, and fastened above the level of ears on the pasted cloth ribbon without leaving any folds.
- The joints of leather strip with scalp and the crevices are packed with the paste of masha to prevent leakage of oil.
- The lukewarm medicated oil, prepared specially for this purpose is then poured on the head slowly up to the height of 2 angula over scalp.
- The oil is retained till secretion appear in mouth, in healthy person approx. 15 minutes.
- After the stipulated periods, the oil is removed and the leather and cotton strip.

- Patient's shoulder, neck, back, head etc. are gently and comfortably massaged followed by bath with warm water and nourishing food.
- Shirobasti can be repeated for 3, 5 or max. up to 7 days.

Nasya:

When the powdered drugs or sneha processed with different drugs is administered through nostrils, the procedure is called as nasya.

Synonyms:

Navana, nasta karma, shirovirechana, murdha virechana etc.

Benefits:

Daily executed nasya leads to pacify diseases in organs above the level of shoulder.

Sense organs become strong, pleasant and get cleansed

Mouth emits good smell

Skin, lower jaw, tooth, shira, neck, upper back, arms, chest, mukha all these become strong and pleasant.

Prevents baldness, premature wrinkles, and discolored patches on face.

Types and subtypes of nasya:

Sushruta:

1. Snehana:
 - a. Marsha
 - b. Pratimarsha
2. Shirovirechana
 - a. Shirovirechana
 - b. Pratimarsha
 - c. Avagaha
 - d. Pradhamana
 - e. Nasya

Charaka:

Panchavidha:

1. Navana: 1. Snehana 2. Shodhana
2. Pratimarsha
3. Avapeeda: 1. Shodhana 2. Stambhana
4. Dhmapana: (pradhmana)
5. Dhuma: 1. Prayogika 2. Snaihika 3. Vairechanika

Trividha:

1. Rechana
2. Tarpana
3. Shamana

Shirovirechana:

Indication:

Netra roga → netra abhishyanda, netra srava, netra spandana, timir

Shiro roga → kaphaja shiro roga, shira shoola, shiro gaurava, ardhava bhedaka, krimija

Shiroroga, stambha, granthi, arbuda, dadru

Nasa roga → pratishyaya, raktaja pratishyaya

Mukha roga → kaphaja talu-kantha roga, lalasrava, aruchi, danta harsha, danta chala,

Upajihvika, Galashundika, gala ganda, ardita

Contra indication:

Immediately after meals, one who is hungry, undernourished or over nourished, pratishyaya of recent origin, pregnant woman, taken excessively liquid beverages or water or ghritapana, indigestion, taken basti, suffering from anger, grief, thirst, fatigue, homicidal poisoning etc.

Avapeeda nasya:

Definition:

The juice, availed by squeezing the paste of virechana or samana drugs, when administered through nose is called 'avapeeda nasya.'

Dosha:

Uttama matra → 8 bindu

Madhyama matra → 6 bindu

Hina matra → 4 bindu

Indication:

In gala roga, sannipatika jvara, excessive sleep, murcha, psychological disorders like unmada, krimija Shiroroga, timira, unconsciousness due to snake bite, abhishyanda,

In raktapitta disease and in weak / emaciated patient; any item like sugar, sugarcane juice, milk, ghee, meat juice is administered for hemostatic purpose.

Matra of marsha nasya: min 4 to 6 bindu, max. 64 bindu

Matra of pratimarsha nasya: 1 to 2 bindu

Deepika taila:

Preparation:

One third part of 18 angula long stems of bruhata panchamula are wrapped in atasi cloth / linen soaked with oil and then ignited.

These burning stems are held obliquely in a vessel so that trickling oil can be collected.

This oil is called 'dipika taila' which rapidly abolishes karna shoola when instilled in external ear.

Pratisarana:

Various drugs according to vitiated dosha are applied in the oral cavity by fingertip to take care of the Mukharoga.

Types:

- Kalka
- Rasakriya / avaleha
- Kshaudra
- Choorna

Indication:

Shiro roga, karna roga, mukha roga, netra roga, kantha roga, lala srava, manya stambha, mukha shosha, nausea, stupor, aruchi

Karna purana:

Patient is advised to lie on one side, ear is filled with various medicated oils and simultaneously massaged at the base of ear.

Period of retention of karnapurana:

One should retain oil till the pain is lessened.

Healthy individual should retain for 100 matra i.e., 1 ½ minutes approx.

Following medicated oils can be used for karnapurana in accordance to diseases and dosha prevalence – hingavadi kshara taila, madhusukta, kushthadi taila, durvyadi taila, moolika taila, apamarga kshara taila, Lasunadi taila, kshara taila etc.

Karna prakshalana:

Prakshalana word is used for washing some body parts to clean them like Hasta prakshalana for hand washing. Karna Prakshalana is a technique of ear toileting with various liquid drugs like decoction, fresh juices, and oil.

Decoction of Surasadi Gana and Rajvrikashadi Gana drugs are known to be best for cleansing ear.10 Decoction of panchkashaya drugs i.e. Haritaki (Terminalia chebula Retz.), Amalaki (Phyllanthus emblica L.), Manjishtha (Rubia cordifolia L.), Lodhra (Symplocos racemosa Roxb.) and Tinduka (Diospyros tomentosa Roxb.) are also useful for Karna Prakshalana in conditions like karnasrava.

Mukhalepa:

Mukhalepa is a cosmetic procedure few Mukharoga require mukhalepa as a therapeutic tool.

Types:

1. Doshaghna
2. Vishaghna
3. Varnakara

Function:

Application of mukhalepa per day facilitates vision to be powerful; face to be clean and lustrous, smooth and bloom like lotus.

Indications:

Scientifically performed mukhalepa stops greying of hair, abolishes diseases like vyanga, vali, timira, neelika

Contra indication:

In diseases like Peenasa, Ajeerna, hanugraha, in patients who had undergone nasya, had stayed up at night.

Ideal mukhalepa:

The thickness of mukhalepa should be $1/4^{\text{th}}$, $1/3^{\text{rd}}$, or $1/2$ of anguli i.e. minimum, medium, and maximum respectively.

It should be retained till it dries.

If it dries, it become harmful hence it should be moistened and removed as soon as it starts drying.

It is then anointed with oil.

Shirovirechana dravya:

Jyotishmati, kshavaka, maricha, pippali, vidanga, shigru, sarsapa, apamarga, tandula, sweta, mahasweta.

Ingredient of pathhyadi kwatha:

Fruits of haritaki, bibhitaki, amalaki, nimba twaka, whole part of bhu nimba, haridra kanda and guduchi stem were used for the preparation of kwatha.

2. Ashtavidha shastrakarma and anushastrakarma used in the treatment of Shira, Karna, Nasa evam Mukha Rogas.

Introduction:

Ashta vidha shastra karma utilizes eight surgical techniques for the management of surgical problems.

Ashta vidha shastra karma involves procedure such as;

- | | |
|--------------------------|-------------------------|
| 1. Chedana (excision) | 5. Visravana (drainage) |
| 2. Bhedana (incision) | 6. Eshana (probing) |
| 3. Lekhana (scrapping) | 7. Aharana (extraction) |
| 4. Vyadhana (puncturing) | 8. Sivana (suturing) |

1. Chedana karma:

Chedana involves excision of part from the body using mandalagra, karpatra, vrudhipatra, Mudrika & utpalpatraka etc.

The diseases which can be treated by chedana are as follows –

- | | |
|-----------------------------|---------------|
| • Kaphaja cyst | • Shirajala |
| • Ulcer margin | • Shirapidika |
| • Mild tumors – vartmarbuda | • Shushkarsha |
| • Enlarged uvula | • Parvani |
| • Adhimamsa | • Arshovartma |
| • Necroses tissue | • Arbuda |

2. Bhedana karma:

It involves incision procedure to open a cavity for draining out tissue debris, rakta, pus & waste discharge using vrudhipatra, nakha shastra, and utpala patraka etc.

The bhedana karma may be used for the management of conditions like –

- | | | |
|------------------------|--------------|----------------|
| • Granthi – cysts | • Gilayu | • Krimigranthi |
| • Vidradhi – abscesses | • Tundikeri | • Upanaha |
| • Talupupputa | • Nisavartma | • Kumbhika |
| • Dantapupputa | • Lagana | • Alaji |
| | • Anjanamika | |

3. Vyadhana:

It involves puncturing of affected part using needle, kutharika & aara etc.

It may be used in case of –

- | | |
|-------------------------------------|-----------------|
| • Nadis | • Sashopha paka |
| • Ulcers lodged with foreign matter | • Ashopha paka |
| • Vataviparyaya | • Adhimantha |
| • Shiritpata | • Abhishyanda |
| • Shiraharsha | |

4. Lekhana:

This technique involves scrapping out waste / debris / dead material from affected part with the help of mandalagra, vridhipatra and karapatra etc.

The conditions which can be managed by lekha are –

- | | | |
|------------------|------------------|-----------------|
| • Cyst | • Vartma sarkara | • Bahala vartma |
| • Upajihvika | • Vartma | • Pothaki |
| • Rohini | avabandhaka | • Utsangi |
| • Dantavaidarbha | • Kardam vartma | • Kumbhika |
| • Adhijihvika | • Klista vartma | • Shyava vartma |

5. Eshana:

It involves sponging of waste discharge, debris, and foreign body, etc. with the help of eshani from affected body parts.

The pathological conditions which are associated with this are –

- | | | |
|-----------|----------|-------------|
| • Sinuses | • Wounds | • Abscesses |
|-----------|----------|-------------|

6. Aharana:

It involves extraction of waste from diseased body parts using badish, dantashanku and nakha etc.

The conditions which can be managed by this procedure are –

- | | |
|-------------------|-----------|
| • Tartar of teeth | • Ear wax |
|-------------------|-----------|

7. Visravana:

This involves use of needle, trikurchak, shararimukha and aatimukha for the purpose of bloodletting or draining of pus.

It is mainly employed for the conditions such as –

- Abscess
- Shishira
- Kanthashaluka
- Krimidanta
- Dantavestaka
- Upakusha
- Shitad
- Dantapupputa

8. Sivana:

It is a para surgical approach involves use of sutures, needles, and threads as post operative management.

The sivana (suturing) applied on incised or scraped lesions, operated tissue, and spreadable wounds.

Ruju granthi, anuvellit, gophanika and tunnasevani are various types of sivana used in this therapy.

Sivana prevents chances of recurring and provides faster healing of affected tissue.

Kshara and agni karma:

Kshara karma, agni karma is known as anushastra karmas.

The surgical disorders with ease and comfort for both surgeon and patients.

Indications:

Skin diseases

Cysts / tumours non healing

Ulcers

Poisons

7 mukha rogas

Diseases and use of asthavidha shastra karma & anushastra karma:

Lagana:

Bhedana karma, kshara karma

Yavakshara, tuttha, gorochana, and pippali mixed with honey (A.H.)

Arshovartma, sushkarsha, vartmarbuda:

Chedana karma, kshara karma

Erandabeeja majja or vibhitaki kshara + honey (S. U.)

Pakshmakopa, upapakshma mala

Kshara application

Gunja kshara + honey (S.U.)

Krimi danta:

Arka kshara application (A.H.)

Danta sarkara:

Remove sarkara – apply yavakshara + honey (chikitsa Manjari)

Danta shoola, danta harsha:

Saindhava + kshara + honey → Pratisarana (yogamruta)

Adhi mamsa:

Chedana – Swarjika kshara + honey (Chakradatta)

Adhijihvika:

Yava kshara + ardraka swarasa lepana (yogamruta)

Upjihvika:

Pratisarana with yava kshara (Chakradatta)

Gala roga:

Panchakola kshara for dharana (chakradatta)

Kaphaja galaganda:

Kodrava prepared in water mixed with amalaki kshara + gomutra (chikitsa Manjari)

Darunaka:

Kodravatrana kshara + water for Prakshalana (A.H.)

Arumshika:

Kushta kshara + madhu for lepana (S.U.)

Nasarsha, nasarbuda:

Chedana

Kshara karma – gunja kshara + honey for lepana (A.H.)

Nasanaha:

Application of apamarga kshara over the hypertrophied turbinate

Nasagata raktapitta:

Utpala kshara + honey for lepana (A.H.)

Karna nada, badhirya:

Apamarga kshara jala + apamarga moola kalka → taila – karnapoorana

Agnikarma in shalakya tantra:

Classical material:

Godanti, pippali, ajashakrida

Panchaloha shalaka, rajata shalaka

Diathermy:

Two types:

1. Monopolar

2. Bipolar

Shapes:

- | | | |
|------------------|--------------|-----------------|
| 1. Circular ring | 4. Rubbing | 7. Eight limbed |
| 2. Pointed | 5. Crescent | |
| 3. Curved lines | 6. Swasthika | |

Indications:

Shiras → shiro roga, ardhavabhedaka

Mukha → medoja osta, jalarbuda, krimidanta, dantanadi, danta, vidradhi, dalana, medoja galaganda

Netra roga →

Lagana: after bhedana

Shonitarshas: after chedana

Shushkarsha: after chedana

Arbuda: after chedana

Pakshmakopa: after shastra karma

Alaji with suchi agra bhaga

Kaphaja linganasha: if pain is not subsiding after vyadhana karma

Adhimantha: if pain is not subsiding

Effects of agni karma:

Local effects:

1. It increases the vasodilation, rate of metabolism, capillary permeability, delivery of leukocyte, elasticity of ligaments capsules, muscle, and nerve conduction.
2. Removal of metabolic waste.
3. It causes the analgesia and sedation of nerves.
4. It decreases the edema formation, muscle tone, muscle spasm and perspiration

Systemic effect:

Induction of pro-inflammation theory

Application of thermodynamic principle of biological system

Gate control theory of pain

Superficial nerve ending response

Contact inhibition theory

Pain threshold theory

Pizo-electric current theory

Reflex theory

These effects will depend upon –

Duration of heating

Method of application

Depth of absorption of specific radiation

Size of area heated

Raktamokshana:

Shastra vistravana:

1. Pracchana: bloodletting through local multiple incision. It can be applicable in diseases which are having dushti of two or three dosha over the area of one angula.
2. Siravyadha: venous puncture. It can be applicable in diseases which are having dushti of tri dosha and rakta dosha. It can be done on entire body.

Anushashtra visravana:

1. Jalaukavacharana: application of leech. It can be applicable in disease which are having dushti of pitta dosha over the area of one hasta (palm).
2. Shringa: sucking through cow's horn. It can be applicable in diseases which are having dushti of vata dosha over an area of ten anguli.
3. Alabu: vacuum extraction using vegetable called alabu. It can be used in diseases which are having dushti of kapha over an area of twelve anguli.

Indications:

1. Puyalasa (acute dacryocystitis)
2. Complicated condition of arma (pterygium)
3. Savarna shukla (corneal ulcer)
4. Pittaja timira (painless loss of vision e.g., macular edema)
5. Abhisyanda of all types (conjunctivitis)
6. Adhimantha of all types (painful condition of eyes like congestive glaucoma, uveitis)
7. Visarpa
8. Daha

Contra indication:

1. Very young, old, emaciated, exhausted
2. Suffering from high fever, convulsion, or unconscious patients
3. General swelling in whole body
4. Wasting due to unhealthy diet
5. Anaemia
6. Piles
7. Pregnant women

Site:

1. Upanasika: near nose
2. Lalata: vein of forehead vein
3. Apanga: veins present at outer canthus of eye

Best time for raktamokshana:

1. Cloudless day in rainy season
2. Cool day in summer
3. Noon in winter

Procedure of siravedha:

1. Purvakarma:

Prakupita dosha viparita dravabahul anna or yavagu pana.

Sthanika and sarvadaihika snehana and swedana.

Ask patient to lie or sit in comfortable position.

Tie the bandha with the help of vastrapatta, charma, antavalkal or lata.

The bandha should not be too tight or too loose.

2. Pradhana karma:

After desired sira is seen properly then puncture the sira with the help of sterile 18G needle or scalp.

Blood is collected in a kidney tray. When the sufficient quantity of blood is drawn the needle is withdrawn cotton swab pressed over the wound and bandha should be released.

3. Paschat karma:

If the bleeding continuous from punctured site, then the fine powder of lodhra, yashtimadhu, raktachandana etc. are applied.

The area is covered with wet cloth or a thin paste of cooling dravyas like chandana.

Patient is asked to relax and rest for 10 minutes. Then patient advised to take light diet or milk later.

Netra roga:

In puyalasa siravedhana should be done followed by upanaha and other measures mentioned in akshipaka.

In savarna sukla – first sarpipana than later siravedhana is done, followed by jalaukavacharana, if remnants are not cleared.

In pittaja timira – after sarpipana, siravedhana is done.

In kaphaja timira – after sarpipana, siravedhana is done.

In vataja abhishyanda – siravedhana is done when pain is not subsided.

In pittaja & kaphaja abhishyanda – repeated siravedhana is done.

In chronic disease for eyes – siravedhana and virechana is done for complete recovery

In pothaki – jalaukavacharana is recommended.

SHIRO ROGA**1. Importance and Superiority of Shira.**

प्राणाः प्राणभृतां यत्राश्रिताः सर्वेन्द्रियाणि च ।

The principal organ of the body where all 'indriya' and 'prana' are located is called as 'shira.' Being situated at the level of the human body, it is also termed as 'uttamanga.'

Charaka acharya describes shira as one amongst three skandhashrita marma. Any injury or pathological change in the shira leads to severe pain.

Skandhashrita marma being sadhyapranahara. They need utmost care and protection from any injury.

Two shankhapradesha, marmatraya, kantha, rakta, sukra, oja and guda are ten pranayatana. These ten life spots specially abide prana.

Entire body is dependent on trimarma. Any problem to any one of these 3 marmas (hridaya, shira, basti) leads to serious health disasters.

Shira is the chief controlling mechanism of our body. All the systems like circulatory, respiratory etc. are being governed, controlled, regulated, and maintained by this topmost controller.

Living body is chiefly controlled by shirastha pranavayu and tarpaka kapha and shira is location of mana and atma.

Head injury leads to local and general diseases of living body.

Shirastha marma:

- | | |
|--------------------------|--------------------|
| 1. Neela & manya (2 + 2) | 8. Utkshepa (2) |
| 2. Krukatika (2) | 9. Sthapana (1) |
| 3. Vidhura (2) | 10. Simanta (5) |
| 4. Phana (2) | 11. Adhipati (1) |
| 5. Apanga (2) | 12. Srungataka (4) |
| 6. Avarta (2) | 13. Matruka (5) |
| 7. Shankha (2) | |

2. Number, general etiology, pathology, and cardinal features of shiro rogas and kapalgata rogas along with their common line of management/treatment.**Number:**

Acharya charaka described 5 types of Shiroroga:

- | | | |
|------------|----------------|------------|
| 1. Vataja | 3. Kaphaja | 5. Krimija |
| 2. Pittaja | 4. Sannipataja | |

Acharya sushruta also described 4 special shiro roga:

- | | |
|-------------------|---------------|
| 1. Sankhaka | 3. Suryavarta |
| 2. Ardhavabhedaka | 4. Anantvata |

According to sushruta, Madhava nidana, bhavprakasha, yogaratnakara there are 11 shiro rogas.

- | | | |
|----------------|---------------|--------------------|
| 1. Vataja | 5. Raktaja | 9. Anantavata |
| 2. Pittaja | 6. Kshayaja | 10. Ardhavabhedaka |
| 3. Kaphaja | 7. Krimija | 11. Sankhaka |
| 4. Sannipataja | 8. Suryavarta | |

Astanga hridaya and astanga sangraha described 10 shiroroga and 9 kapalagata rogas:

a. Shirogata roga: 10

- | | | |
|------------|-------------------|----------------|
| 1. Vataja | 5. Sannipataja | 9. Shankhaka |
| 2. Pittaja | 6. Krimija | 10. Suryavarta |
| 3. Kaphaja | 7. Ardhavabhedaka | |
| 4. Raktaja | 8. Siro-kampa | |

Kapalagata rogas: 9

- | | |
|---------------------------|---------------|
| 1. Upshirsaka | 6. Darunaka |
| 2. Kapala pitika | 7. Indralupta |
| 3. Kapala / siro arbuda | 8. Khalita |
| 4. Kapala / siro vidradhi | 9. Palita |
| 5. Arunshika | |

General etiological factors of Shiroroga:

Various etiological factors of Shiroroga are as follows –

Suppression of natural urges, sleeping in day time and staying up at night, drinking too much alcohol or cold water, over indulgence in sex, head injury, vitiated ama, excessive weeping, suppressing tears, cloudy sky, mental distress, excessive swimming, worms, using thick or thin pillow, avoiding bath, avoiding abhyanga to shira, looking down for a long, excessive talking exposure to dust, smoke hot climate, heavy breeze, excessive consumption of heavy, sour, and harita varga items, unfavourable desha and kala.

Samprapti:

All the above etiological factors aggravate the vata and other dosha which get localized in shira. They in turn vitiate rakta to precipitate various Shiroroga.

Sadhyasadhya:

Sannipatika khalitya and sannipatika Palitya are asadhya.

However, other sannipatika Shiroroga are sadhya in view point of indu.

General management of shiro roga:

Yogaratanakara has suggested sweda, nasya, dhumapana, virechana, lepa, sechana, langhana, shiro basti, raktamokshana, agnikarma, upanaha etc. are used in Shiroroga.

Shirovirechana: in all shiro roga, a wise clinician should be cleansed with nasya mixed with honey and oil followed by nasya with sarshapa taila except krimija & kshayaja Shiroroga.

Raktamokshana: snehana and swedana followed by raktamokshana is indicated if patient is not relieved with above management.

Kwathapana: shira shoola is alleviated with kwatha of triphala + amruta + haridra + nimba + bhunimba with guda.

Ahara: in Shiroroga, patient should consume these items in abundance – meat juice of jangala animals, snigdha food items, and lot of processed milk.

Frequently used kriyakalpa in Shiroroga are shirobasti and nasya.

3. Detailed study of Vataja, Pittaja, Kaphaja shirashoola, Suryavarta, Ardhavabhedaka, Khalitya, Palitya.
4. Brief Knowledge of Raktaja shiraha shoola, Krimija shiraha shoola, Kshayaja shiraha shoola & Sannipataja shiraha shoola, Ananta vata, Indralupta, Darunaka.
5. Detailed study of Headache, Migraine its differential diagnosis and treatment.

1. Vataja Shiroroga:

Etiology:

According to acharya charaka, upavasa, atiyoga of vamana and virechana to get frightened, to carry heavy weights, excessive walking etc.

All these factors lead weakness causing vitiation of vata which enters the vessels of shira precipitating severe vataja shira shoola.

According to sushruta when men feel pain in head without any reason, headache occurs specially at night, feel relieve when bandaging on head and compress.

Rupa:

Severe pricking / tearing type of pain in both temples and in posterior part of neck; feeling as if central part of eye brows and forehead fall out due to pain.

Pain in ear with tinnitus; dragging pain in entire eyeball; feeling of separation of joints of head bones; neck and jaw rigidity.

Severe pulsations in shira with feeling of shaking of head; pain in ears, tinnitus, photophobia, nasal secretions etc.

Dosha – vata, Sadhyasadyata – sadhya

Chikitsa:

Snehana, swedana, abhyanga, pariseka etc. used as external management. Snehapana and anuvasana basti etc. used as internal management.

Milk, ghrita and taila are useful for patient.

Warm masha / mudga / kulattha soup processed with katu-ushna items added with ghrita should be used exclusively as diet at night followed by drinking warm milk.

Milk mixed with tila taila or tila kalka should be used.

Swedana with ball of meat and cereals are beneficial.

Raktamokshana precipitates vata aggravation and hence is strictly prohibited in vataja shiro roga.

Nasya is performed with oil processed with meat juice of crab.

Kshira prepared by kshipra processed with vatahara drugs kalka used on head as lepana karma.

Ghrita processed with drugs from Varunadi group added with milk and sugar should be consumed.

Nasya of shwasakuthara rasa.

Tension type headache (TTH):

Definition:

TTH is most common chronic non migrainuous primary headache characterised by bilateral tightening around head, neck, and eyes.

Features:

Pain of compression quality

Pain of non-pulsatile nature

Mild-moderate intensity

Do not hampering day to day activities

Bilateral presentation

10 – 15 headache episodes / month.

Severity and periodicity are two important features that should be considered before diagnosing either a TTH or migraine.

Etiological factors:

Positive psychological history, anxiety, depression, sexual incompetence, hysteria, marriage separations, premature ejaculation.

Family problems, associated illness, sleep disturbances, obesity, excessive muscle contraction.

Management:

Pharmacological: NSAIDs → PCM, Naproxen sodium, Ibuprofen, Diclofenac sodium & aspirin less preferred.

Non pharmacological: relaxation & biofeedback
 Hypnotherapy
 Acupuncture

2. Pittaja shiro roga:

Specific etiology:

According to charaka, some exciting factors like excessively consuming katu, amla, lavana and kshara food items, alcoholism, anger, exposure to sun / fire etc. which aggravates pitta leading to shira shoola.

Rupa:

Severe burning and fuming sensation in head, eyes, and nose similar to burning charcoal

Along with fever, profuse sweating, fainting, and thirst.

Symptoms are relieved by cold application and also in night.

Dosha – pitta, Sadhyasadhyata – sadhya

Chikitsa:

Abhyanga by ghrita, mixed with sugar

Lepana on head with madhurakadi dravya + ghrita

Pariseka with dugdha, ikshurasa, kanji, mastu, honey, sugar etc.

Lepa on face with drugs of kakoladi gana

Nasya with medicines of madhura gana, with freshly prepared ghrita, with vasa of wild animals.

Asthapana basti with milk processed with drugs of utpaladi gana.

Anuvasana basti with ghee processed with drugs of kakalyadi, madhura gana.

All pittashamaka drugs.

Cluster headache (CH):

Definition:

This is severe unilateral primary headache and facial pain with tearing and burning pain which last for few minutes to 3 hours and associated with ipsilateral conjunctival congestion, lacrimation, and nasal congestion.

Two common variants of CH: episodic cluster headache
Chronic cluster headache

Possible pathology:

Overstimulation from ventral trigeminal pathway

Paricarotid plexus stimulation

Increased metabolic activity in ipsilateral hypothalamus.

Associated clinical features:

Lacrimation, conjunctival congestion, ptosis, miosis, runny nose, photophobia, hyperalgesia, vomiting, nausea

Management:

Verapamil – TDS

Prednisolone

Sumatriptan

100% oxygen inhalation for 15 minutes

Lidocaine nasal spray

3. Kaphaja shiro roga:

Etiology:

आस्यसुखैः स्वप्नासुखैर्गुरु स्निग्धातिभोजनैः ।

श्लेष्मा शिरसि संदुष्टः शिरोरोगाय कल्पते ॥

Leisure life style, sleeping in day time, consumption of guru, snigdha items and excessive eating are the specific factors mentioned by charaka acharya.

Rupa:

The pains are mild in daytime but intense during night.

Head & throat are felt as if filled with kapha.

Heaviness of head, stiffness, coldness

Oedema around face & eyes

Mild pulsations in sira, loss of taste, lassitude, stupor

Itching in ear and vomiting.

Chikitsa:

Shirovirechana is performed with strong kapha suppressive drugs like madanaphala

Gandusha dharana is performed with trikatu kwatha

Achcha ghritapana

Constant swedana

After oleation therapy, madhukasara or decoction of ingudi twak or meshashrunji twak is used for shirovirechana nasya.

Dhumapana is performed with Dhumavarti of ingudi & meshashrunji churna.

Pradhamana nasya by inhaling kataphala churna

Kavala is performed with strong kapha suppressive drugs like trikatu.

Headache due to metabolic disorders:

Common metabolic causes of headache are –

1. Hypoxia and hypercapnia
2. Hypoglycemia
3. Haemodialysis headache
4. Headache following epileptic seizures.

1. Hypoxia and hypercapnia:

Increased CO₂ concentration in blood may precipitate a headache episode conditions which may increase blood CO₂ saturation are:

Sleep apnoea syndrome

Under ventilation and over crowding

Mountain climbing or altitude headache

Chronic pulmonary disorders

Carbon monoxide poisoning

Symptoms:

Headache, confusion, lethargy, muscle twitches

2. Hypoglycemia:

Hypoglycemia occurs when the body's glucose level drops below 70mg/dl.

This cannot only trigger headache, but also causes confusion, dizziness, poor speech coordination, tremors, hunger, irritability, and weakness.

Carbohydrate intolerance & missed meals also can cause hypoglycemic headache.

3. Haemodialysis headache:

Characterised by appearance during haemodialysis and disappearing within 72 hours after dialysis.

Pain is usually bifrontal in location and throbbing in nature, nausea and vomiting may be present.

This type of headache responds well to ergotamine treatment.

4. Headache following epileptic seizures:

Cerebral vessels vasodilatation and increased CO₂ production by blood vessels after a generalised tonic clonic seizure (GTCS) is thought to be responsible for post GTCS headache.

4. Sannipataja Shiroroga:

Rupa:

In tridoshaja shiro roga features of all 3 doshas are observed – such as shoola, bhrama, kampa due to vata, daha, mada, trushna due to pitta, gaurava, tandra etc. due to kapha.

Chikitsa:

Measures counteracting all the three doshas are advised as per the predominance of dosha.

Ghritapana by purana ghrita is specifically suggested.

Transformed migraine / evolution migraine:

Grossly representing a combination term having migraine headache of pulsatile character episodes with in between dull and constant tension type headache periods.

Transformed migraine typically occurs daily and for months to years.

Management includes a combination of both migraines rescue medications with prophylactic management of tension type headache.

Some authors recommend addition of acetazolamide or frusemide addition to TTH.

5. Raktaja shiro roga:

Rupa:

Features of pittaja Shiro roga along with a characteristic feature of hyperesthesia.

Intolerance to touch is observed in raktaja shiro roga

Dosha – rakta, Sadhyasadyata – sadhya

Chikitsa:

Management of pittaja Shiroroga is indicated in raktaja shiro roga

Use of raktamokshana therapy.

Extreme warm and cool items are avoided due to intolerance to touch.

Temporal arteritis:

Temporal arteritis represents a rare form of chronic daily headache in which pain is constant, dull, and usually bitemporal in location with features of intense tenderness and thickening of temporal artery.

It is a self-limiting arteritis but may cause vision loss in about 50% of patients if the disease is left untreated.

With features of low-grade fever, pain in various joints and double vision, vertigo, facial pain

Management with prednisolone 60 – 75 mg daily, intravenous heparin and dextran, temporal artery biopsy.

6. Kshayaja shiro roga:

Hetu, rupa and samprapti:

Excessive sex indulgence and trauma / head injury causes severe depletion of vasa, kapha and rakta from head which precipitates very terrible and severe excruciating pain in head.

Bhrama, murccha, gatra avasada and Shiroshunyata could be additional features.

Pain gets aggravated by swedana, vamana, dhumapana, nasya and raktamokshana. Hence these therapies should be avoided.

Dosha – vata (sushruta) Vatapitta (cakshushya), Sadhyasadyata – sadhya

Chikitsa:

1. Brimhana chikitsa:

In kshayaja shiro roga, brimhana chikitsa is based upon assessing which dhatu is wasted and then various brimhana therapies should be undertaken.

2. Ghritapana:

It is performed with ghee processed with vata suppressive medicines from bhadradravayadi and from kakolyadi / madhura gana.

It is especially suggested that ghrita processed with drugs mentioned in kshayaja kasa should be employed, like vasadi ghrita.

3. Nasya:

Ghee processed with bhadradravayadi & kakolyadi drugs also used as nasya.

Post traumatic headache (PTH):

Post traumatic headache has two variances:

1. Post traumatic headache associated with post traumatic loss of consciousness / amnesia / neurological deficits.
2. None of the above feature but started within 14 days of injury and extended for at least 8 weeks post injury.

Scalp laceration and post traumatic anxiety are found to have significant correlation with the development of PTH.

Possible pathophysiology:

Axonal swelling & conduction abnormalities

Cervical spine disc injuries

Loss of symmetry of cerebral blood flow

Psychosomatic theory

Types of post traumatic headache:

1. Post traumatic migraine
2. Intracranial vascular headache
3. Extracranial vascular migraine
4. PTH due to upper cervical spine injury.

Management of PTH:

Physiotherapy

Antidepressants and NSAIDs

Relaxation therapy

Cervical traction and immobilization in whiplash injuries.

Transcutaneous electrical nerve stimulation (TENS) for pain management.

7. Krimija Shiroroga:

Hetu:

Daily indulgence in eating incompatible food items, excessive consumption of tila, kshira, guda as well as eating even during indigestion, eating rotten food etc.

Samprapti:

Due to etiological factors mentioned above, rakta, kapha and mamsa become moister laden causing more aggravation of all dosha which precipitate growth of worms in head.

Rupa:

- Extreme pain
- The head appears to be being eaten by worms
- There seems to be a spurt of the cranial bones.
- Discharge of water mixed with blood and pus from the nose.
- The doctor should understand that this very painful krimijanya shiro roga.

- Worms feeding on blood, causes severe pricking pain in head with feeling of being eroded
- Cutting or cracking type of pain along with mental disturbance
- Fever, cough, dryness, swelling in head, burning sensation, itching in scalp, palate and head, throbbing sensation
- Emits foul smell with a thin, coppery red nasal discharge and tinnitus.

Chikitsa:

- Blood is used as nasya to intoxicate and attract the worms when worms wander here and there in search of smell and approach the external nares, they should be expelled by kurchika.
- If it fails, then shirovirechana should be employed.
- Wandering worms can be expelled by nasya with vidanga, maricha, apamarga, and shigrubija.
- Avapidana nasya – laghu shigrubija and kasya mala or other krumighna drugs like vidanga, pounded with cow's urine, should be used

Contra indication of bloodletting:

- Loss of blood has already occurred due to eroding of cranial tissue / puncturing of blood vessels by worms / organisms.
- In such conditions, if raktamokshana is performed, it may cause death of patient due to shock.
- Hence it is contra indicated in krimija shiro roga.

Invasive fungal sinusitis (IFS) with skull base invasion:

- Invasive fungal sinusitis is caused by Aspergillus and Mucormucosis fungal growth in sinonasal tract.
- Two established invasive fungal sinusitis are documented first is 1. Acute fulminant invasive fungal sinusitis and 2. Chronic invasive fungal sinusitis.
- IFS is marked by capillary fungal invasion, patchy haemorrhages, mucosal infarction, and blackish dead necrosed sinonasal mucosa along with bone invasion.

IFS propensity:

IFS is almost exclusively seen in diabetes mellitus, hematological malignancy, solid organ transplant recipients, neutropenia, therapeutic immunosuppression, and HIV patients.

Clinical features:

- Fever of unknown origin, facial pain, headache, nasal discharge, facial numbness
- Mental status deterioration, seizures CSF leak, stroke
- Discoloured mucosa which may be grey, green, or black in colour

Management:

Disease reversal and diabetic control

Surgical debridement: maxillectomy & orbital exenteration

Antifungal agents: intravenous amphotericin B
Liposomal amphotericin B
Voriconazole

8. Suryavarta / bhaskaravarta:

Charaka:

- Suppression of natural urges, indigestion etc. aggravates rakta and vayu; these dosha vitiate cranial tissue.
- In this way, at the time of sunrise, the brain contaminated with rakta and vayu melts with the heat of its sunrays and spreads slowly. Thus, the pain in the head increases as the day progresses.
- When the day ends, the brain becomes concentrated, and then the pain in the head subsides.
- This disease is called suryavarta.

Sushruta:

- The pain which starts from the sunrise and increases with the movement of the sun (specially starts happening in the eye and brow and it gets intense when the sun is strong in the afternoon.
- After noon, as the sun slowly fades, the pain also subsides.
- Pain is sometimes relieved either by hot or cold therapies and hence termed as 'avyavasthitasukha' by A.H. i.e. there is uncertainty.
- Pain is more intense if patient is fasting
- In this way, the name of this terrible and painful disease arising out of tridosha outbreak is bhaskaraavarta.

Dosha dushti: sushruta: tridosha

A.H.: Vatapitta

Charaka: rakta & vayu

Sadhyasadyata: sadhya

Suryavarta viparyaya:

- Acharya Videha has mentioned this special condition.
- Pitta predominant and vata are present in co-operative form in suryavarta but in suryavarta viparyaya vata is predominant and pitta is a secondary form, so opposite noun seems appropriate.
- This disease increases due to predominance of pitta in the mid-day time and when it is evening, then vayu becomes dominant and pitta calms down and in this way, there is no pain in the night.

Gadnigrahakar's special opinion: gadnigrahakar has described a special dwandwaja suryavarta, it starts with the setting of the sun and remains till the night and automatically calms down when the sun appears.

Treatment:

Raktamokshana is performed for alleviation of pain and is done by venepuncture after ghritapana.

Treatment is done like ardhavabhedaka.

Sushruta:

- This disease should be treated by nasya adi procedures.
- Meat juice of wild animals and birds should be given for food.
- Malai, ksheera, malpua made from milk and different grains like ghevar, halua, etc. are consumed.
- Ghee should be taken with warm milk.
- Roots of vansha & karpura is triturated in water to perform Avapidana nasya.
- After elimination of kapha by above nasya, ghrita processed with paste of madhura drugs like kakoli is beneficial.

Charaka:

- Ghritapana after meal
- Shirovirechana and kayavirechana
- Lepa of ghrita, taila, vasa and majja on head
- Upanaha with the meat of jangala animals and birds.
- Pariseka on head with milk and ghrita.

Acute frontal sinusitis (AFS):

Introduction:

Definition:

Acute frontal sinusitis is defined as inflammation of mucosal lining of frontal sinus and its out-flow tract of less than 4 weeks, duration characterised by severe frontal pain, retro orbital pain, and fever.

Most of the AFS episodes are viral in nature but bacterial AFS and fungal element are also frequent findings.

AFS satisfying criteria:

AFS is defined as mucosal inflammatory process of nasal cavity and frontal sinus characterised by:

Two or more of the following symptoms: nasal obstruction, anterior or posterior rhinorrhoea, facial pain / pressure, reduction, or loss of olfaction.

One or more of the following endoscopic findings: polyps, mucopurulent secretions from middle meatus.

Predisposing factors:

- Upper respiratory tract infection
- Allergic rhinitis
- Environmental pollutants
- Iatrogenic factors (mechanical ventilation, nasogastric tubes, nasal packing)
- Immunodeficiency
- Cystic fibrosis
- Granulomatous disorders
- Autoimmune disorders
- Asthma & aspirin hypersensitivity
- Smoking & environmental pollution

Causative organisms of AFS:

- Streptococcus pneumonia (30 – 35%)
- Haemophilus influenza (20 – 30%)
- Moraxella catarrhalis (12 – 20%)
- Streptococcus pyogens (up to 3%)

Clinical features:

- Pain / tenderness over frontal sinus
- Office headache: headache showing classic periodicity (more during early morning hours and gets better as day progresses) this is due to the gravitational effects of frontal sinus drainage.
- Nasal obstruction
- Purulent rhinorrhoea
- Fever
- Hyposmia / anosmia (loss of smell)

Diagnosis of AFS:

- X-ray PNS (paranasal sinuses) water's view
- Nasal endoscopy
- CT scan PNS

Medical management of AFS:

1. Antibiotics:

First line: amoxicillin, clavulanate, cefixime

Second line: amoxicillin, erythromycin, azithromycin

2. Topical corticosteroids: it reduces the rate of polyp recurrence, granulation, and mucosal edema.
3. Nasal decongestants / oral decongestants: it increases sinus opening patency
4. Antihistamines: loratadine, levocetirizine

5. Surgical management:

Functional endoscopic sinus surgery (FESS): it is re-establishing the frontal sinus and other sinuses ventilation and mucosal harmony by dealing the disease in a manner that much of mucosa is respected and preserved and only the natural ostium widening is done endoscopically.

9. Anantavata:

Hetu:

Charaka:

Fasting, excessive grief, excessive dry / ruksha and cold food items, eating extremely less amount of food causes vitiation of all dosha which precipitate 'anantavata.'

Rupa:

Charaka:

Sharp pain in manya, back and backside of the neck

The pain is located in the eye, eyebrow, and shankha

There is tremor in back side of neck, eye disease and lock jaw.

Sushruta:

Vitiated tridosha, affecting manya (carotid region), causes severe pain in back side of neck and particularly in eyes, eyebrows, and temples.

The localised tridosha precipitates various eye diseases, twitching on posterior side of cheek and lockjaw.

This condition is called anantavata.

Dosha dushti: tridoshaja

Sadhyasadyata: sadhya

Chikitsa:

Charaka:

In this disease bloodletting by vein puncture is advisable

Due to ruksha ahara vihara, vayu gets aggravated and produces head tremors in this situation kalka or kwatha of guduchi, Balamoola, rasna, Aparajita, and ashwagandha processed with sneha should use.

Application of vatanashaka snehana swedana.

Use of tarpana nasya

Yogaratanakara:

Durvyadi lepa, baladi lepa

Sushruta:

Line of treatment of this disease is similar to suryavarta as suggested by charaka & sushrutacharya.

Raktamokshana is specially indicated for relieving pain.

Vata pitta pacifying food items should be included in diet specially madhumastaka / malpua, puranpoli, halua, ghevara etc.

Trigeminal neuralgia (TN):

TN is also called as 'ticdouloureux' which literally means 'a painful spasm.'

TN produces brief paroxysms of intense, stabbing pain which is limited to the sensory distribution of trigeminal nerve that includes middle face (maxillary division), lower (mandibular division) & upper (ophthalmic division).

TN pain is characterised by episodes of excruciating, stabbing, or electric shock like pain that may occur in one or more of the distributions.

Etiological factors:

Typical TN:

1. Nearly all cases of typical TN are caused by blood vessels compressing the trigeminal nerve root (tortuous basilar artery) (superior cerebellar artery)
2. Pulsation of vessels may lead to changes of nerve function and delivery of abnormal signal causes hyperactivity resulting in generation of TN pain.

Idiopathic:

Multiple sclerosis

Post traumatic TN

Tumour compression

Post hepatic TN

Symptoms:

Occasional spasmic mild pain with facial flushing

Episodes of severe, shooting, or piercing pain like electric shock

Spontaneous attacks of pain triggered by touching the face, chewing, speaking, and brushing teeth, eating, smiling, washing of face

Bouts of pain lasting from a few seconds to several seconds.

Investigation:

CT scan / MRI

Pharmacological treatment:

- Phenytoin sodium
- Sodium valproic acid
- Clonazepam
- Gabapentin
- Carbamazepine

Surgical management:

Microvascular decompression (MUD): this technique alleviates neurovascular compression by placing inert shredded Teflon implants between compressing vessels and the trigeminal nerve root.

Glycerol injection

Balloon compression

Electric current

Partial sensory rhizotomy (PSR)

Stereotactic radiation therapy / gamma knife ablation

10. Ardhavabhedaka:

Charaka:

- Only vata or vata associated with kapha get vitiated due to ruksha food items, excess eating, frequent eating, moist environment, sex indulgence, abstinence of vega, stress and strain, exercises, east side wind etc.
- These dosha precipitate ardhavabhedaka disease, when they get localised on one side of head.
- Destruction of eye and ear on increasing
- Cutting and churning pain in half of manya, eyebrows, shankha pradesha, ear, eye, and forehead.

Sushruta:

- Severe bursting, tearing, pricking, churning type of pain get precipitated in half of the head, eye, eyebrow, temple, and half of neck on same side.
- The attack tends to repeat every 10 days, 15 days, 30 days or suddenly and sometimes subsides of its own accord.
- This disease is tridoshaja

Dosha dushti: sushruta: tridoshaja

A.H.: vataja

Charaka: vataja / vatakapaja

Chikitsa:

- Use all four sneha in large quantities especially purana ghrita
- Shirovirechana, kayavirechana, nadisweda, vamana
- Niruha and anuvasana basti
- Upanaha
- Sirobasti, agnikarma
- Besides this management of pratishyaya should also be employed.

Sushruta:

Treatment is same like suryavarta but treatment is given after considering dosha, desha, kala etc.

Grinding root and flowers of shirisha → swarasa → Avapidana nasya

Bamboo root + karpura grind with water → Avapidana nasya

Vacha + pippali churna → Avapidana nasya

Madhuka churna + honey → Avapidana nasya

Chandana + honey + manahshila churna → Avapidana nasya

Ghee prepared from kalka and kwatha of madhura dravya → nasya after Avapidana nasya

Sariva, nilakamala, kushtha and madhuka grinding in kanji → mix with ghee or oil → lepa on head.

Migraine:

Etymology:

Word migraine is a French word which is derived from Greek word 'hemicrania.'

Definition:

Migraine is a chronic episodic neurological disorder characterised by recurrent moderate to severe headaches often in association with nausea, vomiting, and photophobia.

According to international headache society: five or more attacks of headache lasting for 4 – 72 hours if untreated with at least two of the four features i.e., unilateral, pulsatile nature, nausea / vomiting, and photophobia.

Upto one third of people with migraine headaches perceive an aura: a transient visual, sensory, language or motor disturbance which signals that the headache will soon occur.

Migraine subtypes:

1. Migraine with aura (classical migraine)
2. Migraine without aura (common migraine)
3. Migraine with prolonged aura
4. Basilar migraine
5. Familial hemiplegic migraine
6. Ophthalmoplegic migraine
7. Retinal migraine
8. Childhood migraine
9. Status migrainosus
10. Migrainuous infarction
11. Transformed migraine

Family history is found positive in about 46% of the patient.

Frequency of attack of migraine is extremely variable to the extent that migraine incidence may vary from once in a lifetime to almost every day.

Migraine suffers female more than males are now established and accepted fact with female: male ratio as 3 : 2.

Physiology:

Genetic factors

Magnesium deficiency

Excitatory amino acid theory

Dopaminergic transmission

Trigeminovascular reflex and 5 – HT connection

Signs and symptoms:

- | | |
|-------------------|--------------------|
| 1. Prodrome phase | 3. Headache phase |
| 2. Aura phase | 4. Postdrome phase |

1. Prodrome phase:

Symptoms includes: altered mood, increased alertness, drowsiness, yawning, irritability, fatigue, stiff muscles, constipation, diarrhoea

2. Aura phase:

Vision disturbances, flashes of light, fortification spectra, dysphagia, olfactory hallucinations

3. Headache phase:

Migraine headache can be unilateral or bilateral and may change from one side to other in a single attack.

Pain is seated usually behind the eye and inner canthus

Facial migraine may involve cheek, gums, nostrils and teeth, ears, eyes

Pain starts with a dull ache which become throbbing in nature and ultimately becomes constant intense pain.

Pain is frequently accompanied by nausea, vomiting, sensitivity to light, sound, and smells

4. Postdrome phase:

Exhaustion and lethargy may continue for many days after headache.

Migraine precipitating factors:

- Excessive sleep
- Stressful event
- Sudden trauma
- High intensity light glare, flickering light, high intensity noise & perfumes.
- Missing of meals
- Oral vasodilator like histamine & prostaglandin
- Change in weather and altitude
- Menstrual cycle & hormonal changes
- Excessive tea, coffee, and analgesics

Differential diagnosis:

Other conditions that can cause similar symptoms to a migraine headache includes temporal arteries, cluster headache, TTH, acute glaucoma, meningitis and subarachnoid haemorrhage and need to be differentiated.

Management:

1. Non pharmacological management:

Relaxation, meditation, and biofeedback

Hypnotherapy

Acupuncture

Diet control & regular exercise

2. Pharmacological treatment:

a. Specific acute attack medication:

Sumatriptan (50 – 100 mg tab TDS) also available in injection & nasal spray

Rizatriptan (10 mg tab TDS)

Ergotamine tartrate / dihydroergotamine (DHE) 1 – 2 mg tab & IV

b. Nonspecific treatment:

Aspirin

Naproxen sodium

Diclofenac sodium

Acetaminophen

Metoclopramide

Propranolol 80 – 160 mg daily should be used as prophylaxis in recurrent attacks

11. Shankhaka:

Charaka:

- Contaminated rakta, pitta and vayu take place in sankha pradesha.
- They cause intense pain, burning, redness and severe inflammation
- This swelling with a rapid velocity like poison quickly blocks the head and throat and takes the life of patient in three days.

Sushruta:

Due to mithya ahara – vihara, vayu, kapha, pitta and rakta aggravates and takes place in shankha pradesha via sira and dhamanis and produce extremely severe pain, especially this pain occurs in both shankha pradesha.

The disease is called ‘shankhaka’ by ancient saints who are well versed with vedas.

As death is inevitable, it is said to be incurable even by thousands of physicians.

Excruciating pain in head along with burning sensation, redness, delirium, fever, thirst, giddiness, bitter taste in mouth (tikstasyata) and yellowish discoloration of face etc.

Dosha dushti: sushruta: vata pradhana tridosha & rakta

A.H.: pitta pradhana tridosha & rakta

Sadhyasadhyata: sadhya (only if patient receives emergency treatment)

Chikitsa:

Charaka:

- Since the disease is fatal, the physician should offer complete information about incurability to relatives of patient before commencing treatment.
- Then shirovirechana, swedana etc. and visarpa treatment should be done.
- It is best to do virechana or raktamokshana.
- Mustadi kwatha, chandanadi kwatha, Patoladi kwatha pana
- Udumbaradi pradeha, sarivadi pralepa, baladi lepa

Sushruta:

- Use of fresh butter extracted from milk.
- Food with flesh of wild animals and birds
- Snigdha ahara sevana

Lepa:

Shatavari, black sesame, yashtimadhu, utpala, durva, Punarnava, pounded in water should be anointed on head.

Sariva and palindi pounded in kanji used for lepa

Pradeha with cold drugs from vidarikandadi, kakolyadi and utpaladi group

Avapidana nasya should be used

Nasya with sarsapa taila.

Sigmoid sinus thrombophlebitis (SST):

Sigmoid sinus thrombophlebitis is a dangerous complication of unsafe otitis media and an extension of perisinus abscess.

A combination of surgical intervention and antibiotics has reduced the reported mortality but it can be still as high as 27%.

This perisinus abscess cause pressure necrosis of the wall of sigmoid sinus and eroding its most interior wall.

This wall ulceration and active phlebitis attracts platelets, fibrin and other blood cells leading to formation of thrombus in the sigmoid sinus.

This thrombus then gets infected and completely blocks the sigmoid sinus.

Sign and symptoms:

Severe generalized fronto-occipital headache, earache, nausea, vomiting, loss of visual acuity, 'picket fence fever.'

Neck stiffness

Increased intracranial pressure

Diagnosis:

- MRA, MRI
- CT scan
- CSF analysis

Medical treatment:

Anticoagulation

Steroids to combat brain edema

Broad spectrum & high dose intravenous antibiotics

Surgical treatment:

Modified radical mastoidectomy with infected thrombus evacuation

Ligation of internal jugular vein in neck.

Complication:

- Meningitis
- Subdural abscess, extradural abscess
- Septicemia
- Cerebellar abscess
- Cerebritis

Shira kampa:

Rupa:

Vata vitiated due to ruksha ahara vihara and other etiological factors, causing shaking of head and the condition is called as 'shira kampa.'

Full description is available only in charaka samhita and A.H.

Sushruta mentioned that kampa is caused due to vitiated vata localised in snayu i.e. ligament.

Chikitsa:

Cauterization should be employed in a patient of shira kampa (A.H.)

Sneha processed with paste or kwatha of guduchi, roots of bala, rasna, Aparajita, ashwagandha should be used along with other vata mitigating measures.

Charaka emphasizes that tarpana nasya is extremely useful in this condition.

Kapalagata roga:

1. Upashirshaka:

A painless edema of skin colour develops on shirakapala due to vitiated vata in intra uterine life of baby.

This is called 'upashirshaka'

Dosha: vata; Sadhyasadyata: sadhya

Chikitsa:

Upashirshaka which is recently developed after the birth of child, should be managed by various processed oils mentioned in vatavyadhi.

These oils are used for snehapana, nasya, abhyanga etc.

There after an upanaha applied and tied taking care that it should not suppurate.

If suppuration occurs, it should be managed similar to vidradhi.

2. Kapala pitika 3. Arbuda 4. Vidradhi:

Similar to common diseases caused by doshas are called shirogata pitika, arbuda & vidradhi

Chikitsa:

In case of vidradhi, pitika & arbuda, only the fully described treatment of these diseases should be done in amavastha and pakwavastha.

If the pitika become vranayukta, fruit of nimba, haridra, yashtimadhu and Dhatri processed with oil and use for shodhana and ropana.

In vidradhi, murva, chandana, sariva, dhataki, haridra, lodhra, madhuka, manjistha, padamakesara, shata purvaka moola → processed with oil → shodhana & ropana → use this siddhaghrita for nasya.

5. Arunshika:

Rupa:

A pustular eruption having multiple moist laden small ulcers resembling yellow mustard, develop on scalp due to vitiated pitta, rakta and kapha along with krimi and the condition is called as ‘arunshika.’

Dosha: pitta, kapha, rakta, krimi (A.H.); Kapha, rakta, krimi (Su.)

Sadhyasadyata: sadhya

Chikitsa:

1. Jalaukavacharana
2. Prakshalana

The lesion is scrapped with a sharp knife and then washed with decoction of nimba followed by various lepa.

3. Lepa:

Paste of leaves of bitter patola and nimbi, haridra macerated in cow's urine

Lepa prepared with mixture of powder of kushtha roasted in earthen pot and mixed with oil.

4. Abhyanga with jatyadi taila
5. Shirovirechana, vamana, dhumapana

6. Darunaka:

Rupa:

Vitiation of kapha and vata is responsible for transferring skin of shirakapala / keshabhumi / scalp into a dry, hard, itchy, fissured, and desensitised lesion with loss of hair.

This condition is called ‘darunaka.’

Chikitsa:

Sushruta:

1. Shodhana:

Raktamokshana – venesection from scalp is performed after snehana and swedana

It is followed by avapedana nasya

Shirobasti

2. Prakshalana:

It is performed with solution of ash of kodrava plant.

3. Lepa: (A.H)

Paste of seeds of priyala, kushtha, yastimadhu, masha and sarshapa with madhu.

4. Skin of scalp should always be kept clean.

7. Indralupta:

Rupa:

Pitta located in hair follicles when get aggravated along with vata causes fall of hairs.

Thereafter vitiated kapha along with rakta block these follicles resulting in non-growth of new hairs and the condition is called 'indralupta.'

Sushruta acharya offered synonyms as 'khalitya,' 'rujya.'

Whereas A.H. offered synonyms as 'rujya,' 'chacha'

Chikitsa:

Charaka:

In this disease first of all shodhana karma means vamana, virechana should be done.

After that nasya, taila snehana on head and lepana karma on mukha should be done.

Kalka or kwatha of vidarigandhadi dravya and 10 dravyas of jivaniya varga processed with taila or anutaila use in nasya karma.

Sushruta:

1. Siravedha: snehana, swedana is followed by venesection, done in the vicinity of indralupta.

2. Prachhana karma: is performed at site where indralupta is located and it is followed by various lepa.

3. Lepa: paste prepared with

Kasia, tuttha, maricha

Dalchini and deodar

Madhu, ghrita, sesame flowers and gokshura

Ash of elephant tusk mixed with oil is an extremely good medicine for growth of new hairs.

4. Indraluptanashaka taila / jatyadi taila

Taila processed with tender leaves of malati, chitraka, karaveera and karanja is beneficial in curing indralupta.

5. Rasayana should be given orally.

8. Khalati / khalitya:

Acharya sushruta had not mentioned khalitya. He only mentioned indralupta.

Khalitya roga is well described in astanga hridaya / sangraha.

Precipitation of khalati is similar to indralupta.

Fall of hairs is gradual and it is the characteristic features of khalati.

The appearance of scalp skin differs according to doshaja subtypes as under:

1. Vata predominant khalati: as if burnt by fire (blackish, reddish)
2. Pitta predominant khalati: studded with network of blood vessels with abundant sweat (yellowish, bluish, greenish)
3. Kapha predominant khalati: skin coloured but thick skin (whitish)
4. Tridoshaja khalati: the scalp skin exhibits feature of all doshas.

Skin appears similar to nail (reddish in colour, glossy), devoid of hairs / even tender hairs and with burning sensation.

This stage is incurable / asadhya.

Dosha: tridosha

Sadhyasadhya: doshaja → sadhya

Tridoshaja → asadhya

Chikitsa:

First patient should be performed Vamanadi karma, then nasya, mukha abhyanga, siro abhyanga and lepana karma should be done.

Nasya should be done with taila of laghu panchamoola and jivaniya gana dravya.

Following celibacy, consuming milk and perform nasya with nimba taila for one month.

9. Palita / Palitya:

According to charaka, aggravated pitta along with vatadi dosha slightly burn moola of romakupa and produce palita roga.

According to sushruta pitta vitiated by the body heat, which is aggravated by grief, exertion, anger etc. causes greying of hairs and the condition is called Palitya.

Features according to dosha:

1. Vata predominance: splitted, blackish, coarse, resembling water hue.
2. Pitta predominance: burning sensation, yellowish coloured
3. Kapha predominance: glossy, growing excessively, thick, and bright white.
4. Tridoshaja: mixed characteristics of all dosha

Chikitsa:

Sahacharadi taila → nasya

Bringaraja swarasa, godugdha, yastimadhu, tila taila → taila paka → nasya

Mahanil taila → pana, nasya, snehana

Prapondarikadi taila

Priyaladi yoga

Nilyadi taila

Jatamamsi, kushtha, black taila, sariva and nilotpala macerated in milk and mixed with honey → lepana on head

Palita secondary to shirashoola:

Palita precipitated secondary to shirashool is characterised by discolouration of hairs and hyperesthesia of scalp skin.

Sadhyasadyata:

Doshaja palita in young age: sadhya

Tridoshaja palita & palita dur to old age: asadya

KARNA ROGA**1. Detailed study of Rachana and Kriyasharir of Karna (Ear) & Shravanendriya as per Ayurvedic and modern view, Examination of Ear along with instruments/equipments required in Ear examination.****Definition of karna:**

कर्णशष्कुल्यवच्छिन्नमदुष्टोपगृहितंश्रोत्रमुच्यते ॥

Indriya which is not seen with naked eye, along with 'shashkuli' is called Shrotra i.e., karna.

Karna rachana:

- Karna is originated from aksha mahabhuta.
- Charaka samhita has stated that karnendriya adhisthana exhibits two parts viz. 1. Karnashashkuli (2) and 2. Karnaputraka (2)
- Chakrapani stated that karnashashkuli is karnagata avarta and karnaputraka is bahyakarna.
- Dalhana has nomenclatured bahyapali as shaskuli.
- Sushruta has included bahyakarnachidra in 9 bahirmukha srotas.
- One asthi and one tarunasthi is present in karna. One sandhi 'shankhavarta' is present.
- Two peshis are present in karna
- Ten siras are present in karna: 4 vatavaha, 2 pittavaha, 2 kaphavaha, 2 raktavaha
- Amongst above mentioned 10 siras, each karna lodges one shabdavaha sira. It is avedhya.
- Karna has 2 dhamanis that convey shabda.

Karna sharira kriya:

- All gyanendriya are panchabhautika in composition.
- Karna is originated from akasha mahabhuta and hence perceives shabda only.
- Gyanendriya: shrotrendriya
- Predominant mahabhuta: akasha mahabhuta
- Indriya adhisthana: Shrotra / karna
- Indriya artha: shabda
- Indriya buddhi: shrotendriya buddhi
- Shrotrendriya is one of the principal locations of vata and its function is to perceive shabda.
- This sensation is conveyed through shabdavahi dhamanis to mana and atma through pranavayu and the sequence is responsible for perception of sound.
- When atma is linked with mana, mana is linked with indriyabuddhi, indriyabuddhi is linked with adhisthana and lastly with indriya artha then particular sound is interpreted and understood.

Marma related to karna:

1. Vidhura → vaikalyakara (2)
2. Shrungataka → sadhyapranahara (4) sira marma

Anatomy of ear:

Anatomy of ear is divided into external, middle, and internal ear.

1. External ear: consists of auricle (pinna), external auditory meatus (canal), and tympanic membrane
2. Middle ear: consists of eustachian tube, auditus, antrum, mastoid air cells and ossicular chain
3. Internal ear: consist of bony labyrinth (vestibule, semicircular canals, cochlea) and membranous labyrinth (cochlear duct, utricle, saccule, three semicircular ducts, endolymphatic ducts and sac.)

1. External ears:

Auricle:

The entire pinna, except its lobule, and the outer part of EAC are made up of a framework of a single piece of yellow elastic cartilage covered with skin.

There is no cartilage between the tragus and crus of the helix, this area is called the incisura terminalis.

External auditory canal (EAC):

About 24 mm long and 's' shaped.

Divided into two parts:

1. Cartilaginous: outer 1/3 (8mm)

The skin covering the cartilaginous canal is thick and contains ceruminous and pilosebaceous glands which secrete wax.

Hair is only confined to outer canal.

2. Bony: forms inner 2/3 (16mm)

Skin is devoid of hair and ceruminous glands, sebaceous gland

Tympanic membrane:

Partition between the EAC and the middle ear

Obliquely set (55°)

Parts: 1. Pars tensa 2. Pars flaccida (sharpnell's membrane)

Layers of tympanic membrane:

1. Outer epithelial layer
2. Middle fibrous layer
3. Inner mucosal layer

2. Middle ear:

- Middle ear cleft: consists of a series of interconnected air-filled cavities which are located within the temporal bone.
- Middle ear together with the eustachian tube, aditus, antrum and mastoid air cells is called the middle ear cleft.
- It is a six-sided rectangular space in the petrous temporal bone having a roof, floor, anterior, posterior, medial and lateral walls.
- Ossicular chain: it is formed by malleus, incus and stapes bones which transmit the sound vibrations from external ear to the internal ear
- Intratympanic muscles: tensor tympani, stapedius
- Arterial supply is from the branches of middle meningeal artery, maxillary artery, ascending pharyngeal artery and stylomastoid branch of posterior auricular artery.

3. Internal ear:

Consists of: bony labyrinth, membranous labyrinth

Membranous labyrinth is filled with a clear fluid called endolymph.

The space between membranous and bony labyrinth is filled with perilymph.

Bony labyrinth:

The bony labyrinth comprises of

1. Cochlea, anteriorly
2. Vestibule in the centre
3. Three semicircular canals, posteriorly

Cochlea:

The bony cochlea is a coiled tube making 2.5 to 2.75 turns around a central pyramid of bone called the modiolus.

The bony cochlea contains three compartments:

1. Scala vestibuli
2. Scala tympani
3. Scala media or the membranous cochlea

Vestibule:

Central chamber of the labyrinth in its lateral wall lies the oval window. The inside of its medial wall presents two recesses:

1. Spherical recess: lodges the saccule
2. Elliptical recess: lodges the utricle

In the posterior part of vestibule are the five openings of semicircular canals.

Semicircular canals:

3 in number: lateral, posterior, superior lies in planes at right angles in one another each canal has an ampullated end which opens independently into the vestibule.

Membranous labyrinth:

Consists of

1. Cochlear duct / scala media / membranous cochlea
2. Utricle and saccule
3. Three semicircular ducts
4. Endolymphatic duct and sac

Cochlear duct: blind coiled tube

- Triangular on cross section and three walls are formed by:
- The basilar membrane, which supports the organ of corti
- The reissner membrane: separates it from the scala vestibuli.
- Utricle and saccule: utricle lie in posterior part of bony vestibule.
- Receives five openings of the three semicircular ducts
- The saccule also lies in the bony vestibule, anterior to the utricle opposite the stapes footplate.
- Semicircular ducts: three in number and correspond exactly to the three bony canals.
- They open in the utricle.

Endolymph duct and sac:

Endolymphatic duct is formed by the union of two ducts, one each from the utricle and the saccule. Its terminal part is dilated to form the endolymphatic sac.

Physiology of hearing:

The hearing mechanism comprises of:

1. Sound conducting mechanism (transmission)
2. Conversion of mechanical energy into electrical impulses and their conduction (transduction)

Thus, the mechanical conduction of sound waves occur in the external and middle ear whereas the conversion of energy and its conduction occurs in the internal ear and neural pathway.

Physiology:

- Sound waves are collected by the pinna and strikes the tympanic membrane after passing through external auditory meatus.
- Middle ear cavity converts the sound of greater amplitude but lesser force to that of lesser amplitude and greater force by the structural difference of various parts of the middle ear. This function is called as impedance matching mechanism of middle ear.
- The vibrations created on the tympanic membrane are transmitted to the oval window by the ossicular chain.
- Vibration of the stapes footplate causes displacement of cochlear fluid which stimulates the organ of corti situated on the basilar membrane.

- Thus, organ of corti is stimulated which converts the mechanical energy into electrical impulses which are then carried by auditory nerve to the hearing centres in the temporal lobe.

Examination of ear:

Common ear complains which may force a patient to visit an ENT OPD are:

1. Hearing loss
2. Otagia (pain in ear)
3. Otorrhea (discharge from ear)
4. Fullness / blockage of ear
5. Tinnitus (hearing of abnormal sounds)
6. Vertigo (subjective whirling sensation)
7. Appearance abnormality
8. Itching and irritation of the ear.

Detail assessment of visualisation of different structures needs one or more of the following instruments:

1. Light source: it may be offered by head mount light, bull's eye lamp, a concave mirror is also frequently used for the examination purposes
 2. Otoloscope with pneumatic bulb attachment: it is battery operated and a must for tympanic membrane and other detail examination of the ear providing sufficient magnified view of the field.
 3. Otoendoscope: it provides an excellent, magnified view of the ear structures including that of canal, tympanic membrane and a sense of middle ear pathologies.
 4. Microscope: used for subtle details assessment & attic pathologies and many times foreign body removal & deep canal manipulations
 5. Miscellaneous: suction apparatus, tunic fork, different sizes of speculum wax removal probe, blunt probe, aural packing forceps and foreign body hook.
-
1. Speech test: in this examination examiner phonate some words (like sunscreen, football and textbook) from 6 meter of distance and ask the patient to repeat the same. Eyes of the patient are obliterated to prevent lip reading by the patient.
 2. Finger friction testing: rough estimation is done by rubbing the fingers close to the patient and ask for the outcome.
 3. Tuning fork tests (TFT): a tunic fork of 512 Hz is commonly used in audiological evaluation. Tunic fork is vibrated by striking its prongs to the examiner's elbow joint or a rubber pad.

Two types of estimation are performed:

- a. Air conduction: it is done by bring the vibrating tunic fork in the proximity of 1.5 – 2 cm alongside the external auditory canal.
- b. Bone conduction: this is done by firmly putting the vibrating tunic fork to a non-hair bearing area like mastoid process.

Rinne's test:

Motive: comparison is made between bone & air conduction

Method: base of a tuning fork is placed to the mastoid area after vibrating tuning fork then after the sound is no longer appreciated the vibrating top is placed near the external ear canal.

Interpretation

1. Positive Rinne ($AC > BC$): seen in normal person or patients having sensorineural hearing loss
2. Negative Rinne ($BC > AC$): conductive hearing loss in tested ear.

Weber's test:

Motive: to test lateralization of the bone conduction

Method: vibrating tuning fork is placed in the midline like forehead vertex or incisor teeth and the patient is asked to indicate which of the ear he has got better hearing.

Interpretation:

1. In a patient with a unilateral conductive hearing loss, the sound will be louder in the affected ear.
2. In a patient with unilateral sensorineural hearing loss, the sound is louder in the normal ear.
3. In a normal person or a person with symmetrical hearing loss, it is equally loud in both ears.

Absolute bone conduction (ABC) test:

Motive: compares the patient's bone conduction to that of examiner's bone conduction.

Method: vibrating tuning fork is placed on patient's mastoid process and the canal is obliterated by tragus pressure, when the patient stops hearing sound then the examiner quickly places the fork on his mastoid process with canal obliterated.

Interpretation:

1. If the sound is still heard by examiner patient has got sensorineural hearing loss.
2. If the sound is not heard by examiner patient has got no sensorineural hearing loss.

Schwabach's test: the test is same as absolute bone conduction test and the only difference is the canal is not obliterated (remain open)

4. Pure tone audiometry (PTA):

Pure tone audiometry is a behavioural test used to measure hearing sensitivity.

Audiogram: it is a graphical representation of the hearing status on different frequencies.

Both air and bone conduction are tested and marked by special predestined marking system.

Pure tones are delivered to the ears by a headphone for air conduction or by a vibrator for bone conduction.

Pure tone audiometry is carried out in a sound proof chamber. Air conduction threshold are frequencies upto 125, 250, 500, 1000, 2000, 4000, and 8000 Hz. and bone conduction thresholds for 250, 500, 1000, 2000 and 4000 Hz. are done.

The patient is told to raise his finger or give a signal when he appreciates the slightest sound.

Inference: the difference between the thresholds of air and bone conduction is a measure of the conductive hearing loss.

Sensorineural hearing loss shows reduction in threshold of both bone conduction and air conduction.

The audiometer is calibrated such that a normal person would have an air bone gap within 20db with bone conduction higher than air conduction.

Pure tone average is the average of hearing sensitivity at 500, 1000 and 2000.

5. Evoked response audiometry (ERA):

The electric response of cochlea, audiometry nerve and the brain to the sound is recorded in this test.

It is useful in children and patient with psychogenic deafness.

Electrocochlear-graphy (EcoG) and brain stem evoked response audiometry (BERA) are two test which are clinically accepted.

6. Impedance audiometry / tympanometry:

It is commonly used in clinical practice, particularly in children. It comprises of

1. Tympanometry
2. Acoustic reflex measurements.

It is useful for differentiating the stiffness or the compliance of the tympano-ossicular system and thus helps to know the healthy or diseased middle ear.

It is an objective test.

Uses:

Useful for testing the hearing in infants and young children.

It is also helpful for detecting the cochlear pathology, 7th and 8th nerve lesions.

7. **ASSR:** auditory steady state response audiometry
8. **HRCT:** high resolution CT scan of temporal bone
9. **Otoacoustic emission (OAE):** It determine cochlear status, specifically hair cell function in the inner ear.

2. Detailed study of etiology, pathology, classification, clinical features and management of diseases of Karna - karna shoola, karna nada& shweda, Badhirya, karnastrava, karna pratinaha, pootikarna, karnagoothaka, karnavidradhi.

Samanya hetu and samprapti of karna roga:

Hetu:

Pratishyaya, sheeta vihara, jalakrida (swimming), karnakandu (scratching), shabda-shastra mithyayoga i.e., listening to high sound frequencies or misuse of instruments and other general causes of vata aggravation these are the samanya hetu of karna roga.

Samprapti:

Vata, vitiated by above mentioned various hetu, enters in karnasrotas through karna sira and induces karnashoola suddenly with great intensity.

Samanya chikitsa of karna roga:

सामान्यं कर्णरोगेषु घृतपानं रसायनम् ।

अव्यायामोऽशिरः स्नानं ब्रह्मचर्यमकत्थनम् ॥

In every kind of karna roga vata prakopa seems to be the cause. Hence ghritapana, rasayana sevana, brahmacharya palana, along with avoidance of vyayama or shira snana and atibhasya are the common remedies.

Hingavadi kshara taila, madhusukta kushthadi taila, darvyadi taila, mulika taila, apamarga kshara taila, etc.

Induvati, sarivadi vati, rasnadi guggulu, arogyavardhini vati, gandhaka rasayana, etc. are routinely used.

Number of karna roga:

Sushruta: (28)

- | | |
|---|------------------------|
| • Karna shoola | • Karnakandu |
| • Karnapranada | • Karnavarcha / guttha |
| • Badhirya | • Krimi karna |
| • Karnakshveda | • Karnapaka |
| • Karnapratinaha | • Putikarna |
| • Karnasrava | |
| • Karnavidradhi (doshaja, Kshataja) | |
| • Karnarsha (v, p, k, s) | |
| • Karnarbuda (v, p, k, r, mamsa, meda, sarvaja) | |
| • Karnashopha (v, p, k, s) | |

Charaka: (4) (v, p, k, s)

Astanga hridaya: (25)

Karna shoola / earache / otalgia:

Rupa:

Vayu passing either through wrong direction, gets vitiated and then covered by other dosha.

Such vayu then induces severe pain in the surrounding area of karna like hanusandhi, shankha pradesha, shira and griva etc.

This kashta sadhya diseases if called karnashoola.

Sushruta: karnashoola – 1

A.H.: (v, p, k, r, s) – 5

1. Vataja:

- Pain in one side of the head
- Stiffness of head
- Aversion to cold
- Prolonged suppuration
- Little, thin, watery discharge

2. Pittaja:

- Pain in ear
- Burning sensation
- Desire for cold
- Fever & swelling
- Early suppurate with yellow exudation

3. Kaphaja:

- Dull ache
- Itching
- Swelling
- Desire for hot
- Heaviness in shira, hanu & griva
- White & thick secretion

4. Sannipataja:

- Severe pain, swelling
- Fever
- Altered desire for hot & cold
- Copious white or black or blood-stained secretion
- Impairment of hearing
- Asadhya

5. Raktaja:

Rakta vitiated due to abhighata → pain

Similar to pittaja karna shoola

Upadrava of karna shoola:

1. Fainting
2. Burning sensation
3. Fever
4. Cough
5. Tiredness
6. Vomiting

Chikitsa:

- Snehana, swedana, snehavirechana
- Mamsa rasa & pinda sweda
- Dhupana karma with atasi, guggulu, and aguru
- Ghritapana after meal
- Karnapurana with kukkuta vasa
- Snehapurana with chaturvidha sneha
- Karna shulahara ghrita
- Karna purana with dipika taila
- Karna purana with lukewarm any mutra from ashta mutra
- Karna purana with drug of amla varga
- Karna purana with katu taila

Karna nada (tinnitus):

Rupa:

Vitiated vayu, traversing either through wrong direction, when gets lodged in shabdavahi dhamani i.e., sound carrying channels, the person often perceives various types of noises like bheri, mrudanga, shankha etc. without any reason.

This condition is called karna nada / karna pranada

Chikitsa:

Treat with drug of vataja shoola. If kapha is present first Vamanadi procedure complete then use drug of vataja shoola

Use of swarasa of eranda, shigru, varuna, mulaka patra for navana, abhyanga and karna purana.

Karna purana with sarshapa taila

Karna purana with apamarga taila

Karna kshveda: (tinnitus)

Hetu, rupa, samprapti:

Vayu along with kapha, pitta and rakta gets vitiated due to exertion, dhatukshaya i.e., wasting processes, eating dry and astringent food materials; exposure to cold after shirovirechana etc. It lodges in shabdavahi dhamanis and induces sound like venughosha i.e., whistling.

This condition is called karna kshveda by sushruta.

Chikitsa:

Treat with vatashoola nasaka drugs

Use swarasa of eranda, shigru, varuna, mulaka patra for navana, abhyanga and karnapurana.

Karnapurana with sarshapa taila & apamarga taila

Difference between karnanada and karnakshveda:

	Karna nada	Karna kshveda
Dosha	Only vataprakopa	Vata, pitta, kapha and rakta
Hetu	Samanya - vata vardhaka hetu	Vishesha – overstrain, exertion, dhatukshaya
Types of sound	Bheri, mrudanga, shankha etc.	Only venughosha i.e., whistling sound
Chikitsa	Vatashamana chikitsa	Vata, pitta, kapha shamaka and rakta shodhaka
Kha Vaigunya	Bahya or madhya karna only nadi / sira involved described by vagbhata.	Abhyantara karna, whole path involved Not described by vagbhata

Badhira (deafness):

Rupa and samprapti:

Vitiated vayu due to negligence of karnanada, accompanied by vitiated kapha blocks various sound carrying channels.

If the condition is neglected in initial stage, hearing deteriorates gradually ultimately leading to badhira i.e., total deafness as under –

1. Uchchshruti i.e., hearing loud sound only
2. Kruchrshruti i.e., hearing even loud sounds with difficulty
3. Badhira i.e., total deafness

Sadhyasadhyata:

Deafness in babies, on old person, emaciated patients, and patients suffering from cough, shosha and one which is chronic should be considered as asadhyata. (A.H.)

Chikitsa:

Vataja karnashoola chikitsa is indicated

Vata is accompanied by kapha in badhira hence it should be eliminated first by emesis followed by rest of chikitsa.

Snehapana, abhyanga, swedana with vata suppressive drugs, sneha virechana, dhumapana followed by shirobasti, nasya, karnapurana and dietary regimen etc.

Eranda taila sneha virechana

Nadisveda & pinda sveda of fish, chicken & lava bird

Karnapurana with lashunadhya taila / nagaradi taila / dashmoola taila / kakjanga taila / apamargakshara taila

Treatment similar like vataja pratishyaya.

Karna purana with bilva taila / hingavadi kshara taila / Nirgundiadi taila / dipika taila / karnashoolahara ghrita

Karnasrava (otorrhoea):

Hetu and rupa:

Head injury or immersion in water or suppuration of vidradhi causes purulent discharge from vata afflicted ear and the condition is called as karnasamsrava or karna srava.

Astanga hridaya and astanga sangraha has not described karnasrava.

Chikitsa:

Vaidhya should advise shirovirechana, dhupana, karnapurana, Pramajana dhavana etc. as needed.

Pramajana twice a day with varti / pichu.

Karna Prakshalana with kwatha of aaragvadhadi gana.

Karna purana with churna of aaragvadhadi or surasadi gana

Prakshalana with kashaya of panchakshiri vruksha bark

Karna purana with kapittha swarasa + madhu

Shaivaladi taila

Priyanguvadi taila

Karna pratinaha (tympanic membrane perforation):

Hetu & rupa:

When liquified ear wax mixed with other exudates of ear canal together reaches in the mouth and nose with producing severe headache and other complications is known as karna pratinaha.

Dosha involvement: kapha & vata

Sign & symptoms: severe headache

Ear wax reaches at oral cavity and nasal cavity

According to A.H.: the vitiated kapha dosha is dried by the rukshya, khara, laghu, gunas of vitiated vata dosha and sticks to the shabdavahasrotas, produces, earache, heaviness and deafness is known as 'karna pratinaha'.

Chikitsa:

Sushruta: a wise physician should soften the dry & accumulated kapha by instilling taila, liquify it by svedana and then extract it with shalaka.

Snehana, svedana followed by shirovirechana and other necessary procedures should be employed

Ear wax remove

Dry, mopping with cotton

Pratishyaya chikitsa

Teekshna gandusha & dhumapana

Pootikarna (chronic suppurative otitis media (CSOM):

Sushruta: karna srota, when Kaphadosha is melted by pittoshma and causes foul sticky ear discharge with or without pain is known as 'putikarna'.

A.H.: when kapha vidagdha (melted) by pitta dosha, with pain or without pain with thick profuse sticky foul-smelling discharge is known as putikarna.

Dosha: kapha, pitta

Location: madhya karna

Sign & symptoms: painful or painless sticky foul discharge, sotha

Chikitsa:

Pramarjana, inspection of ear canal, karna Prakshalana it is followed by swedana, dhupana, shirovirechana, karnapurana, gandusha, vamana etc. considering dosha and requirements of individual case.

Sushruta: stri dugdha + rubbed rasanjana + honey: karna purana nirgundi taila

Bhavaprakasha: taila processed with jatipatra karna purana kushthadi taila.

Karna goothaka (ear wax):

Acharya vagbhata has not described karna guthaka roga but described karnamala chikitsa.

Rupa:

Vitiated Kaphadosha when accumulated in shabdavaha srotas and get dry up by ushnaguna of pitta then causes the collection of semi solid materials in the external auditory canal is known as 'karnagutha' or 'karna varcha' or 'karna vit'.

Dosha: kapha & pitta

Location: bahyakarna

Sign & symptoms:

Collection of solid / semisolid mass in EAC.

Karna shoola

Tinnitus

Itching sensation

Chikitsa:

Softening of wax by putting ear drops

Karna purana with nirgundi taila, kshara taila

Removing the wax with probe

Nadi sveda, pinda sveda

Karna Pramarjana with cotton bulbs

Karna dhupana with guggulu, rasanjana etc.

Symptomatic treatment to reduce pain & inflammation.

Karna vidradhi (abscess in the ear)

Types:

Four types of doshaja vidradhi occurs by vitiation of vata, pitta, kapha and tridoshaja but agantuja vidradhi occurs due to scratching of EAC (kshataja) and injury (abhighataja).

Location: madhya & bahya karna

Sadhya

Sign & symptoms

Ear canal is vitiated and exhibits with different exudation like rakta, pitta, aruna, haridra varna etc.

Pricking pain

Feeling like smoke coming out from ear canal

Burning sensation

Itching sensation

Headache

Chikitsa:

Treatment should commence with vamana

Vimlapana, raktamokshana, upanaha sveda should performed in non-suppurative stage. Later, lepa, alepa, pradeha, seka till wait for suppuration.

In suppurative stage: bhedana & visravana should be done for irrigation of impure exudates
Then shodhana and ropana of incised wound.

3. Brief Knowledge of karna kandu, karnapaka, karnarsha, karnarbuda, krimikaran & karnapali rogas, Karna sandhana (Auroplasty), fundamentals, method and Vaikritpaham

Karna kandu (fungal otitis externa / otomycosis):

The accumulated vitiated kapha dosha in the ear canal produces severe itching sensation and inflammation is called 'karna kandu'.

Dosha: kapha dosha

Location: EAC

Aetiological factors:

Swimming & head bath in polluted water

Fungal infection in the EAC

Dust, smoke etc. exposures cause allergic reactions

Putting of impure oil etc. in ear.

Sadhya

Chikitsa:

Nidana parivarjana

Nadi sweda, vamana

Vairechanika dhuma, nasya

Karna Prakshalana with Nimbadi kashaya

Karna Pramajana

Karna dhupana with guggulu, aguru, hingu, rasanjana, nimba, haridra

Karna purana with sarshapa taila

Teekshna shirovirechana

Ruksha, tikta, katu items in meal

Karna paka (diffused otitis externa):

Vitiated pitta causes suppuration, necrosis, sloughing of tissues with moistening, mostly due to entry of water (infected) in the EAC; and the condition is called ‘karna paka’.

Pakvavastha of karna vidradhi is called as ‘karnapaka’ by madhukosha.

Dosha: pitta

Location: bahya karna

Sadhyasadyata: sadhya

Sign & symptoms:

Karna shoola, karna shotha, daha, jvara, srava

Chikitsa:

Pittahara or pitta Visarpahara treatment should be given.

Sheetal upachara, lepa (shata dhauta ghrita)

Krimihara chikitsa

Karna Pramajana & dhupana, snehana, swedana

Vamana, virechana, basti etc.

Oral medicines – amrutadi guggulu, Nimbadi guggulu, chandanadi vati, triphala guggulu, sarivadi vati, khadiradi vati, rasnadi guggulu

Karnarsha (ear polyp):

In shalakya tantra the description of karna arsha is not given and explained

Types:

Sushruta: vata, pitta, kapha, rakta, sannipata, sahaja – 6

A.H.: sahaja, janmotara – 2

Charaka: sushka, adra – 2

Vata, pitta, kapha, dwandwaja, sannipata, sahaja – 8

Location: bahya, madhya karna

Symptoms / sign: vedana, putikarna, badhirya

Polyps in the external and middle ear occur due to stenosed chambers with improper ventilation. Constant irritation and chronic collection of exudates.
The mucosa is stimulated & gives an elongated mass known as arsha.

Chikitsa:

Mainly 1. Aushadha 2. Kshara 3. Shastra 4. Agni

Treatment like nasa arsha

Cauterization – electric, chemical agents like silver nitrate

Chedana & lekhana karma

Upadrava: udavarta, badhirya

Karnarbuda (tumours of ear):

Vitiated vatadi doshas when disturb twacha, rakta, mamsa etc. dhatus produce 7 types of arbuda

- | | | |
|------------|------------|-----------|
| 1. Vataja | 4. Raktaja | 7. Siraja |
| 2. Pittaja | 5. Medaja | |
| 3. Kaphaja | 6. Mamsaja | |

Arbuda are commonly apakwa due to kapha & meda.

Raktaja, mamsaja, Adhyarbuda, dwirarbuda, marmasthanashrita arbuda etc. are asadhya.

Location: external & middle ear

Sign / symptoms:

Earache, otorrhoea, discomfort, vertigo, meningeal & non meningeal complication.

Chikitsa:

In non-suppurative stage should treat like shopha

In suppurative stage should treat like vidradhi (incision, drainage, ropana etc.)

Hard non suppurative complicative tumour should be excised

Swedana of arbuda followed by vamana, virechana

If not pakwa; rupture by stone, wood, stick, or thumb

Kshara, agni, shastra karma

Krimikarna (maggots in ear):

Sushruta: when mamsa dhatu is rotten in the ear canal and create krimi or flies may be attracted to the foul-smelling ear discharge and lays eggs which hatch out into larvae called maggots it is known as 'krimikarna'.

Krimi eat all dead tissue, exudates, pus etc. and create severe pain.

Dosha: sannipataja

Predisposing factors: bud hygienic condition

Improper treatment of past disease

Infected mastoid cavity

Location: bahya & madhya karna

Sign & symptoms: maggots present in ear canal, ear ache

Chikitsa:

Dhupana with ripen dried brinjal & guggulu

Vamana, dhupana and kavalagraha

Karna purana with sarshapa taila after dhupana

Karna purana with vidanga & haratala triturated in go mutra

Karna purana with kshara taila

Oil prepared with nimba kashaya

Charaka: apakarshana, prakriti vighata, nidana parivarjana

Karnapali rogas:

Number of karnapali rogas

Vagbhata, A.S., sharangadhara

- | | |
|---------------|----------------------------|
| 1. Palishosha | 5. Unmantha / gallir |
| 2. Tantrika | 6. Dukhavardhana |
| 3. Paripota | 7. Lehya, pitika, parilehi |
| 4. Utpata | |

Sushruta, Madhava nidana, yogaratnakara, bhavaprakasha

- | | |
|-------------|----------------------|
| 1. Paripota | 4. Dukhavardhana |
| 2. Utpata | 5. Parilehi / lehika |
| 3. Unmantha | |

Only A.H. & A.S. describe 3 diseases of karna shaskuli:

- | | | |
|-----------------|-----------------|--------------|
| 1. Kuchikarnaka | 2. Karnapippali | 3. Vaidarika |
|-----------------|-----------------|--------------|

Sadhyasadyata:

Karnashaskuli rogas asadhya

Tantrika – yapy

Remaining 6 – sadhya

General treatment of karnapali roga:

If neglected these terrible diseases of the ear lobe of a person who constantly follows mithya ahara-vihara and does not take treatment on time, completely destroys karnapali.

That's why the use of snehana, swedana etc. and abhyanga, pariseka, pradeha and raktamokshana should be used quickly.

Pathya: swedana, virechana, vamana, nasya, siramokshana

Apathya: the ear patient should completely avoid brushing teeth, taking bath with head, exercising, kaphavardhaka guru ahara, scratching the ear and sita sevana.

Karna sandhana (auroplasty):

Causes:

1. Due to vitiation of dosha while facilitating, dilation of karnapali
2. External trauma, accident, fall etc.
3. Diseases
4. Wearing heavy ear rings
5. Complications of surgery by unskilled

15 patterns of repair of ear lobule / karna sandhana vidhi:

Sadhya:

- | | |
|-------------------|-------------------------|
| 1. Nemisandhanaka | 6. Aharya |
| 2. Utpalabhedyaka | 7. Nirvedhima |
| 3. Valluraka | 8. Vyayojima |
| 4. Asangima | 9. Kapalasandhika |
| 5. Gandakarna | 10. Ardhakapatasandhika |

Asadhya:

- | | | |
|---------------|---------------|-----------------|
| 1. Sankshipta | 3. Vallikarna | 5. Kakaushthaka |
| 2. Heenakarna | 4. Yastikarna | |

Principles of karna sandhana:

One in whom both flaps of split ear lobules are absent, the central even portion of pinna may be punctured and dilated for cosmetic purpose.

If outer flap is bigger, it should be approximated to inner one and if inner flap is bigger, it should be approximated to outer.

If there remains only one flap of split ear lobule and if it is thick, wide and fixed, it may be bifurcated, trimmed and joined with upper portion.

In absence of ear lobule, expert should elevate a living flap from cheek connected at its base and should reconstruct the ear lobule after scrapping

Operative techniques:

Collect equipment especially suramanda, ksheera, udaka, dhanyamla, and kapal churna

Hairs of patient should be tied.

Patient fed with light diet, held properly by assistant. The pattern of repair decided upon and chedana, bhedana, lekhanana or vyadhana done as necessary.

The blood coming out of ear should be examined and clean it with Prakshalana

Vitiated by vata: dhanyamla & ushnodaka

Vitiated by pitta: sheetodaka

Vitiated by kapha: suramanda & ushnodaka

Further area should made raw & approximately done so that the ear is neither elevated not devoid of portion or irregular.

After adequate haemostasis, suturing should be done.

Apply madhu and ghrita, cover with pichu and tied with thread, neither too tightly or too loose.

Sprinkle kapala churna (powder of potsherd)

Post operative procedure:

Sechana – the suture should undergo sechana with raw prepared tila taila for 3 days and the swab is changed at the interval of every 3 days.

Post operative complications:

Edema, suppuration, fever, redness, burning sensation, itching, boils, discharge, attains bluish colour etc.

Chikitsa of post operative complications:

Raktamokshana should be performed in case patient's blood is vitiated, before proceeding for surgery.

In case of anaemia; snehapana, snehana nasya, abhyanga, brumhana and use of meat juice along with other nourishing therapies should be employed.

If the complications still persist with all above remedial measures the sutures are removed; or malunited lobule is again incised and re-sutured, rectifying previous mistakes taking all precautions of surgery.

4. Detailed study of Otagia, ASOM, CSOM, Deafness, wax including their etiology, pathology, clinical features, differential diagnosis, complications and medical & surgical management

Otagia (earache):

Otagia is pain in the ear.

Primary otagia is ear pain that originates from the ear itself.

Referred otagia is ear pain that originates from outside the ear due to impacted teeth, sinus disease, inflamed tonsils, infections in the nose & pharynx, throat cancer, migraine etc.

Causes:

1. Local cause:
external ear: furuncle, impacted wax, otitis externa, otomycosis, foreign body, herpes zoster
middle ear: acute otitis media, eustachian tube obstruction, mastoiditis
2. Referred cause: deformity of teeth, tongue, tonsil, throat, temporomandibular joint pathologies
3. Psychogenic cause: when no cause has been discovered.

Types:

1. Primarily otalgia: ear pain can be caused by disease in the external middle ear or inner ear.
2. Secondary otalgia: via cranial nerve V, VII, IX, X second and third spinal segments.

Treatments:

- Treat the cause
- Antibiotics
- Fungicides
- Anti-inflammatory drugs
- Anti histamine drugs

Acute suppurative otitis media (ASOM):

It is a common disorder affecting the mucous membrane of middle ear cleft.

It usually affects the young children because the eustachian tube is shorter, wider and more horizontal in them.

Route of infection:

In most of the cases infection spreads through eustachian tube whereas in some cases it passes from external to middle ear due to traumatic perforation of tympanic membrane.

Predisposing factors:

Any nasal or upper respiratory tract infection like rhinitis, measles, influenza, sinusitis, tonsillitis etc.

Tumours of nasopharynx, packing of nasal cavity, polyp, entry of infected water during diving as well as entry of milk during breast feeding or bottle feeding etc.

Causative organism: streptococci, H. influenza etc.

Pathology:

1. Catarrhal stage / tubal occlusion (acute salpingitis):

Eustachian tube obstructed

Middle ear air absorbed

Engorgement & edema of cleft lining.

Patient complains of mild pain and fullness in the ear.

2. Stage of exudation:

If inflammation progresses, there will be collection of exudates, which causes marked throbbing pain especially at night.

Deafness, fever and malaise will also be complained of.

3. Stage of suppuration:

Exudation becomes purulent

Acutely congested & bulged tympanic membrane

Centre of tympanic membrane may rupture by ischaemic necrosis

If not treated, pus is discharged into external ear.

4. Stages of resolution:

Infection resolves with effective treatment

Middle ear returns to normal appearance & function

5. Stage of complication:

Due to inadequate treatment ill drainage infection persists & causes mastoiditis, subperiosteal abscess, trigeminal neuralgia, facial paralysis, labyrinthitis, meningitis etc.

Differential diagnosis:

- Furuncle of external ear
- Referred otalgia
- Herpetic lesions of ear

Treatment:

Control infection give symptomatic relief

Ensure patency of eustachian tube for drainage & ventilation

Ensure complete resolution and full return of auditory function.

Antibiotic

Decongestant nasal drop

Incision & drainage

Analgesic

Anti. Inflammatory etc.

Surgical treatment:

Myringotomy:

It is indicated in stage of suppuration for evacuating the pus to relieve the pain as well as to prevent the further complications.

A 'J' shaped incision is given on the posteroinferior quadrant under general anaesthesia.

In serous otitis media a radial incision is given in the anteroinferior quadrant or a grommet is inserted.

Chronic suppurative otitis media (CSOM):

Chronic inflammation of the middle ear cleft causing irreversible changes like perforation, is called as 'chronic suppurative otitis media.'

Causes:

Chronic eustachian tube dysfunction

Persistent perforation of the tympanic membrane

Failure of treating ASOM

Recurrent URTIs

Big unhealing perforations

Unhygienic condition

Pathology:

Poor blood supply to tympanic membrane especially tip of handle of malleus → more scope for perforation

Necrosis of ossicular chain

Persistent mucosal disease → repeated infection of middle ear → hyperplasia of mucosa → polyp formation

This process is associated with long standing persistent discharge or active infection.

Types:

1. Tubotympanic disease / safe CSOM / benign:

Without cholesteatoma

Complications like mastoiditis, facial nerve paralysis are rarely seen.

Inactive disease of middle ear

Discharge is mucoid, perfuse, odourless

Polyps and granulations are rather uncommon.

2. Attico – antral disease / unsafe CSOM / dangerous:

Active mucosal disease with cholesteatoma

Perforation is in attic or marginal with or without bone erosion.

Polyps and granulations are rather common.

Complications like mastoiditis, facial nerve paralysis and meningitis may be present

Discharge is scanty and foul smelling.

Clinical features:

- Ear may discharge off & on
- Discharge has a characteristic foul odour
- Hearing loss
- Dizziness
- Facial muscle weakness
- Otorrhoea should occur without otalgia or fever

Investigation:

- Examination under microscope
- Tuning fork tests and audiogram
- X-ray mastoids / CT scan temporal bone
- Culture & sensitivity of ear discharge.

Management:

1. Conservative management:

An appropriate antibiotic

Regular intensive aural toilet & debris removal

Control of granulation tissue

2. Surgical management:

Radical mastoidectomy

Modified radical mastoidectomy

Combined approach tympanoplasty

Deafness:

Impairment of hearing is called as deafness which may be mild, moderate or severe.

Deafness classification:

1. Conductive deafness:

When sound conducting mechanism of the ear is defective. The lesion could be anywhere from external auditory canal to the footplate of stapes.

It could be congenital and acquired:

a. Congenital factors:

Atresia of external auditory canal

Malformation of ossicles

Congenital ossicular discontinuity

b. Acquired factors:

Wax

Foreign bodies

Inflammatory disease like otomycosis

Tumours of pinna & canal

Otosclerosis

ASOM, CSOM

Ossicular necrosis

2. Sensorineural deafness:

It is due to abnormality in cochlea auditory nerve, neural pathway or their central connections with auditory cortex.

Sensorineural deafness caused by congenital & acquired

a. Congenital sensorineural hearing loss (CSNHL):

Genetic causes:

Non genetic causes: enlarged vestibular aqueduct syndrome

Cleft palate

Ossicular malformation

EAC atresia

Maternal TORCH infection

b. Acquired causes: infectious disease like meningitis, measles, mumps

Ototoxic drugs

Age related

Sudden sensorineural deafness

Vascular ischemia of inner ear.

Investigation:

High resolution CT scan, MRI

Pure tone audiometry

Microscopic examination of canal & membrane

Various auditory function test like voice test, tuning fork etc.

Management:

For conductive deafness either by medical or surgical line of treatment and in few conditions hearing aid are useful

For sensory neural deafness: in sudden deafness steroids, antibiotics, vasodilators, vitamins, tranquilizers are much useful, in mild to moderate degree hearing aids or cochlear implants, in severe chronic deafness auditory training & lip reading will help to some extent.

Ear wax:

The secretions of the sebaceous and ceruminous glands in the EAM are rich in fatty acids and lipids. The desquamated epithelial debris, the keratin shed from the tympanic membrane and the dust from atmospheric air when mixed with these secretions, it gets accumulated inside the meatus and thus produces wax.

In normal conditions, these secretions lubricate the canal and is expelled out in dried condition due to movements of jaw, but in some cases excessive secretion causes excessive accumulation of the wax which obstructs the canal.

Symptoms:

Pain is the important presenting symptom caused due to absorption of water during bathing which leads to complete blocking of meatus causing deafness.

It also caused itching

Treatments:

Removal of wax either by syringing or by wax hook.

Hard impacted wax should be removed after softening only.

5% sodium bicarbonate ear drops are instilled frequently for a week which will soften the wax.

Sterile oil can also be used.

Boiled & cooled tap water or normal saline is used for syringing the ear after softening the wax.

If tympanic membrane is perforated, hydroscopic foreign body, pain is very severe or in non-cooperative & very young patient it should be removed under general anaesthesia.

5. Brief Knowledge of Otomycosis, Otosclerosis, Tinnitus, Vertigo, Foreign body in ear and Noise pollution.

Otomycosis:

It is a common fungal infection caused by aspergillus fumigates, aspergillus niger, candida albicans and actinomyces and is mainly seen in the rainy season.

More commonly seen in hot & humid environment

Prolonged use of antibiotic ear drop, open mastoid cavity and frequent water activities also can increase the chance of otomycosis.

Clinical features:

- Intense itching
- Fullness of ear
- Conductive hearing loss
- Mild pain

On examination: greyish blackish fungal mass like wet blotting paper is a usual appearance

Treatment:

Ear toilet

Nystatin or broad-spectrum antifungal agents like clotrimazole should be used.

Antipruritic agents are useful in reducing the itching

Systemically antibiotics should be given.

Otosclerosis / otospongiosis:

It is characterised by fixation of stapes foot plate to the oval window due to formation of new spongy bone in ligament of stapes which may extent to the bony wall of cochlea.

It causes conductive or sensory neural deafness.

Etiology:

It starts at 20 – 40-year age, more common in female heredity, racial factors, hormonal factors, common blood group, disturbed Ca^{2+} metabolism play some role in its formation

Symptoms:

- Bilateral deafness
- Unilateral or bilateral tinnitus
- Occasional vertigo

Signs: pink to red colouration of eardrum during rapidly progressing condition

Eustachian tubes test & audiometry

Treatment:

Sodium fluoride 20mg BDS with calcium

Stapedectomy is performed with Teflon piston graft.

Hearing aid

Differential diagnosis:

Ossicular immobility, generalised bone diseases, middle ear infections etc.

Tinnitus:

Definition:

Tinnitus is perception of a sound that appear to originate from head in absence of an external stimulus.

Tinnitus is ringing, roaring, clicking, whistling, hissing, buzzing, steaming sound or noise in the ear.

Usually, it is unilateral but may also affect both ears.

It may be intermittent or continuous.

Causes:

1. Subjective:
 - a. Otologic:
 - Impacted wax
 - Fluid in mid ear
 - Acute & chronic otitis media
 - Abnormal eustachian tube
 - Otosclerosis
 - Old age
 - Noise trauma
 - Vascular compression of 8th nerve
 - b. Non otologic:
 - Disease of CNS
 - Anaemia
 - Arteriosclerosis
 - Hypertension
 - Hypotension
 - Epilepsy
 - Migraine
 - Drugs
2. Objective:
 - Vascular tumour of middle ear
 - Aneurysm of carotid gland.
3. Psychogenic

Investigation:

Ontological, neurological, cardiovascular, audiological, vestibular, radiological examination

Treatment:

Causes should be treated

Mild sedative, anxiolytics, vasodilators, diuretics, vitamins

Surgical treatment if needed

Masking of the sound with alarm clock or radio etc.

Vertigo:

Disturbance in the sense of equilibrium causes vertigo.

It may be mild or severe and patient feels that either his surrounding is moving around him or he himself is rotating.

The causes of vertigo are broadly divided into:

1. Peripheral i.e., in the internal ear or 8th nerve.
2. Central i.e., lesions of brain stem & CNS pathways.

Causes: VERTIGO

V – vascular: stroke, migraine, hypotension, anemia, hypoglycemia

E – epilepsy: endocrine disease

R – receiving any treatment: antibiotics, cardiac drug, sedatives, tranquilizers, aspirin

T – tumour, trauma, thyroid

I – infections bacterial, viral, syphilitic

G – glial disease

O – ocular disease or imbalance

Types:

1. Mild vertigo: in which there is mild imbalance or dizziness
2. Severe vertigo: may be accompanied by nausea, vomiting, perspiration, diarrhoea, due to vagal stimulation

Investigation:

Blood examination, X-ray

External & internal ear examination

CSF examination, electroencephalography, cerebral angiography

CT scan, MRI

Thyroid function test, ECG, glucose tolerance test

Treatment:

Labyrinthine sedatives like prochlorperazine

Vasodilators like cinnarizine or beta histidine

Low salt diet & avoid excessive water intake

Reassurance

Foreign body in ear:

Any outside object lodged inside ear canal is foreign body in ear which is not supposed to be present there.

Foreign body can be of various origins and can vary from stone pieces, pebbles, paper pieces, ball bearings, beads, wood pieces, pencils, rubbers, insects, buttons and batteries to cereal and grains etc.

An otoscope or microscope is used to identify object.

Possible etiological factors:

Intentional: commonly seen in mentally unstable patients & intoxicated.

Accidental: especially among children

An insect that may have crawl into ear particularly at night when patient is in sleep & rather less attentive.

Symptoms:

Pain in ear

Dizziness & sense of obstruction of ear

Infection of canal

Purulent or blood mixed discharge from ear.

Tickling sensation

Treatment:

Multiple attempts must be avoided by family members & untrained persons

Forceps removal – soft & irregular bodies

Syringing – seed grains & soft objects

Suction apparatus

Microscopic removal with special instrument

Living things like fly & insect should be killed by instilling vegetable oil, spirit, alcohol then can be removed by any methods

Noise pollution:

Noise is often defined as ‘unwanted sound’ but it should be ‘wrong sound in the wrong place at the wrong time.

Sources of noise pollution:

A noise of 90db, 8 hours a day for 5 day / week is the maximum safe limit as per ministry of labour govt. of India.

Source of noise:

Automobiles, factories, industries, air craft, railway, traffic, recreational noise of loud speaker, radio, T.V. etc.

Effect on health:

Noise induced hearing loss, tympanic perforation, rupture of reissner's membrane, disruption of corti & ossicular chain, annoyance, increased B.P., fatigue, interferes with sleep, vision.

Speech etc.

Control:

Careful planning of cities

Control of vehicles

To improve acoustic insulation of building, industries & railway

Legislation

Community education.

NASA ROGA**1. Detailed study of Rachana and Kriyasharir of Nasa (Nose and paranasal sinuses) & Ghranendriya as per Ayurvedic and modern view, Examination of Nose. along with instruments/equipments required in Nose examination.****Etymology:**

नासा = न + श्रु to produce sound to give resonance to sound

नासा = गति moving towards internal organs

Definition:

नासते शब्दायते इति | which produces sound

नास्यतेऽनयेति | which do respiration

घ्रायतेऽनेन इति |

घ्रा गन्धोपदाने | which helps in olfaction

Synonyms: नासा, नासिका, घोण, नाः, नस्त, नक्र, घ्राण, घ्रति, गन्धमाली

Nasa pramana: 4 anguli charaka

Nasa sandhi: 1 sandhi

Nasa peshi: 2 peshi

Nasagata sira: 24 sira (v, p, k, r = 6 × 4 = 24), 4 avedhya

Nasagata dhamani: gandhavahi dhamani 2

Bahirmukha srotas: 2 nasaputa

Nasasthi: 3 tarunasthi

Nasa kriyasharira: indriya: ghranendriya

Indriya artha: gandha

Indriya dravya: Prithvi

Indriya adhisthana: nasa

Indriya buddhi: ghranendriya buddhi

Marma:

1. Phana marma: 2 siramarma, vaikalyakara, loss of smell sensation if damaged
2. Srungataka marma: 4, sira marma, sadhyapranahara, immediate death if damaged

Anatomy of nose:

The nose performs two functions. It is a respiratory passage and also the organ of smell. For descriptive purpose, the nose is divided into two main parts: 1. External nose 2. Nasal cavity / internal nose

1. External nose:

It is pyramidal in shape with its root up and the base directed downwards. It consists of osteo-cartilaginous framework covered by muscles and skin.

Bony part → upper 1/3rd of external nose. Formed by two nasal bones

Cartilaginous part → lower 2/3rd of external nose.

Formed by:

- | | |
|-----------------------------|-------------------------|
| 1. Superior nasal cartilage | 3. Septal cartilage |
| 2. Inferior nasal cartilage | 4. Small alar cartilage |

Nasal skin: skin over nasal bones & upper nasal cartilages are thin and freely mobile while that covering the alar cartilage is thick and adherent.

Features of external nose:

1. Dorsum: the prominent ridge separating the right & left halves of nose
2. Root of nose: upper narrow end of nose just below forehead.
3. Tip of nose: lower end of dorsum which is round in shape
4. Anterior nostril: each nostril cavity communicates with the exterior through anterior nares.
5. Columella: soft median partition separating the two nostrils

2. Nasal cavity / internal nose:

It extends from external nares to posterior nasal apertures and is sub divided into right and left halves by the nasal septum

Each half has a

- | | |
|----------|-----------------|
| 1. Roof | 3. Medial wall |
| 2. Floor | 4. Lateral wall |

1. Roof:

Roof consists of

- a. Anterior sloping part: formed by

Nasal part of frontal bone

Nasal bone

Nasal cartilages

- b. Middle horizontal part: formed by cribriform plate of ethmoid
- c. Posterior sloping part: formed by body of sphenoid bone.

2. Floor:

Floor formed by 1. Palatine process of maxilla 2. Horizontal plate of palatine bone

3. Medial wall / nasal septum:

The nasal septum is a median osteo-cartilaginous partition between two halves of nasal cavity on each side it is covered by mucous membrane and forms the medial wall of nose

The septum has:

- a. Four borders: superior, inferior, anterior, posterior
- b. Two surfaces: right and left
- c. Three parts:
 1. Columellar septum: formed of columella containing medial crura of alar cartilage united together by fibrous tissue and covered on either side by skin.
 2. Membranous septum: it consists of double layer of skin with no bony or cartilaginous part
 3. Septum proper: it consists of osteo-cartilaginous framework, covered with nasal mucous membrane. Its principal constituents are: vomer
Perpendicular plate of ethmoid
Septal cartilage

Other bones which make minor contributions at the periphery are:

1. Nasal spine of frontal bone
2. Nasal crest of nasal bone
3. Nasal crest of maxilla & palatine
4. Rostrum of body of sphenoid

4. Lateral wall:

Skeleton of lateral wall consists of

- a. Bony part formed of –

Nasal bone

Frontal process of maxilla & body of maxilla

Lacrimal bone

Labyrinth of ethmoid

Perpendicular plate of palatine

Medial pterygoid plate

- b. Cartilaginous part:

Superior nasal cartilage

Inferior nasal cartilage

Small alar cartilage

- c. Cuticular lower part: formed by fibrofatty tissue covered with skin

Nasal conchae:

The lateral wall of nose is irregular owing to the presence of three shelf like bony projection called conchae.

1. Superior conchae & 2. Middle conchae: project from labyrinth of ethmoid. They are joined anteriorly but diverge away from each other posteriorly.
3. Inferior conchae: a separate bone and the longest.

Measures of nose:

Beneath the inferior border of each concha is a passage which communicates freely with the nasal cavity. These passages are called meatuses of nose.

Sinuses	Opening
Post ethmoidal sinus, sphenoid sinus	Superior meatus
Frontal sinus, maxillary sinus, Ant. Ethmoidal sinus	Middle meatus
Naso – lacrimal duct	Inferior meatus

Little's area / Kieselbach's plexus:

The antero-inferior part of septum contains anastomoses between all branches. Ant. Ethmoidal arteries, superior labial branch of facial artery, sphenopalatine artery, greater palatine artery. These form a large capillary network called Kiesselbach's plexus. This is a common site of bleeding from nose (epistaxis) and is known as Little's area.

Woodruff's area / retrocolumellar vein:

Retrocolumellar vein runs vertically downwards behind the columella, crosses the floor of nasal cavity and joins the venous plexus on lateral wall near the posterior end of inferior turbinate. It is called as 'Woodruff's area' which is another common site of bleeding in nose.

Arterial supply of nasal septum & lateral wall:

Anterosuperior part: anterior & posterior ethmoidal arteries.
Antero inferior part: superior labial branch of facial artery.
Postero superior part: sphenopalatine artery
Postero inferior part: branch of greater palatine artery.

Venous drainage:

Anteriorly to facial vein & posteriorly to pterygoid venous plexus.

Nerve supply:

1. General sensory nerve from trigeminal nerve
2. Olfactory nerve: upper part of olfactory area

Anatomy of paranasal sinuses:

Air filled extensions of the respiratory part of the nasal cavity are found within bones are called the paranasal sinus.

Four paranasal sinuses named as –

1. Frontal sinus – 1
2. Ethmoid sinus – 1
3. Maxillary sinus – 2
4. Sphenoid sinus -2

Opening of different sinuses are:

Anterior & middle ethmoid sinus, maxillary & frontal sinus → middle meatus

Posterior ethmoidal sinus → superior meatus

Sphenoid sinus → sphenoidal recess

1. Ethmoid sinus:

Located within the ethmoid bone, between nose & orbit.

Divided into 3 groups: anterior, middle & posterior

Anterior group opens into infundibulum, middle opens on the bulla, posterior into superior meatus.

Supplied by anterior posterior ethmoidal nerves.

2. Maxillary sinus:

Located within the body of the maxilla.

Pyramidal in shape with the base forming the lateral wall of the nose & apex lies in the zygomatic process of the maxilla.

Roof formed by the floor of orbit & floor formed by alveolar border.

Opens into the middle meatus through the hiatus semilunaris.

Supplied by superior alveolar & infraorbital nerves.

3. Frontal sinus:

Two in number

Located within the frontal bone, separated from each other by a bony septum

Triangular in shape, extending backward into the roof of the orbit.

Opens into the middle meatus through the infundibulum.

Supplied by the supraorbital nerve.

4. Sphenoid sinus:

Two in number

Located within the body of sphenoid

Open into the sphenoidal recess

Supplied by the posterior ethmoidal nerve.

Physiology of paranasal sinuses:

Air conducting of inspired air due to large surface area of mucus membrane.

They provide resonance to the voice

They make the skull bones lighter.

They act as thermal insulators for protecting the delicate structures in the orbit & the skull from intranasal temperature variations.

Physiology of nose:

- The nasal cavity functions to allow to enter the respiratory system upon respiration.
- Structures within the cavity regulate the flow of air and particles it contains.
- The olfactory region of nasal cavity regulates the sense of smell.
- Nasal vibrissae, present near the vestibule, filters the air entering into the nose.
- Reflexes like sneezing: protective function on exposure to irritants, respiration stopped temporarily to protect respiratory tract.
- Warming & moistening of cold & dry inspired air
- Nasal cavity acts as a resonating chamber for certain consonants in speech.
- Arrangement prevents the rupture of tympanic membrane
- Secretions drained out of nasopharynx.
- Enzyme lysozyme & IgA, IgE & interferon kills bacteria & provide immunity against URT infections.

Examination of nose:

The steps that must be followed while examination of nose is:

1. Examination of external nose
2. Anterior & posterior rhinoscopy
3. Endoscopic examination
4. Radiological examination

1. Examination of external nose:

Examination of external and the surrounding structures should be thoroughly inspected by inspection & palpation for any defect, deformity, asymmetry, swelling, depression of nasal bridge, deviation etc.

2. Anterior rhinoscopy:

Anterior rhinoscopy can be performed with thudicum or Vienna nasal speculum using head mirror and a light source or head light.

The nasal vestibule can be examined without speculum by raising the tip of the nose.

Dislocated anterior end of the septum, redness or swelling can be easily detected.

The other deeper structures can be examined with the help of nasal speculum. The mucous membrane lining, the speculum, the turbinates and meatus on the lateral wall and each nasal cavity should be thoroughly examined for any abnormal findings.

Thudicum speculum: it is held with forefinger of left hand. Middle finger rests on one side & ring finger rests on one side & ring finger on other side to control spring of speculum. Closed speculum should be introduced then blades gradually opened.

3. Posterior rhinoscopy:

Posterior rhinoscopy is performed with the help of a head mirror, a light source, a tongue depressor and posterior rhinoscopic mirror.

4. Endoscopic examination:

This is accomplished by a flexible naso-pharyngo-laryngoscope with camera attachment and monitor projection.

Attachment and extensions of nasal polyps and tumours, bleeding sites, middle meatus, anatomical variations and nasopharynx are beautifully elucidated by naso endoscopy.

5. Radiological examination:

- Non contrast CT scan (NCCT)
- Sinogram
- Sinoscopy
- MRI

2. Detailed study of Pratishyaya, Dushta pratishyaya, Nasanaha, Kshavathu, Nasagata raktapitta & Nasarsha.

Pratishyaya:

Prati (opposite direction) + shyaya (moving of dosha)

Kaphadi doshas are eliminated out through the nose continuously is known as pratishyaya.

Hetu:

1. Sadhyojanak hetu:

- Nari sanga
- Sirabhitapa
- Dust & dirt
- Due to cold
- Exposure to hyperthermia
- Retention of excreta.

2. Chaya adi krama janya hetu:

Vatadi dosha and rakta, after getting accumulated in the brain separately or as a whole, get aggravated due to many provocative reasons and generate pratishyaya.

Purvarupa:**Shiro guruta**

- Kshavathu
- Angamarda
- Parihrushta romata (horripilation)
- Upadrava – jvara, arochaka etc.

General treatment:

- Except nava pratishayaya,
- Ghritapana → swedana → vamanā
→ avapeeda nasya
- In navana pratishyaya –
dhrumapana
- Dashaksheera ghrita
- Satahavadi Dhumavarti
- Vyoshadi vati
- Sahacharadi taila
- Vidangadi dhuma
- Chaturajataka nasya
- Shatyadi churna
- Shadbindu ghrita

1. Vataja pratishyaya / allergic rhinitis (AR)

Hetu:

- Nasal obstruction
- Thin watery discharge
- Dryness of throat, palate, lips
- Pricking pain in temporal region
- Hoarseness of voice
- Repeated sneezing

Chikitsa:

Snehapana with pancha lavana ghrita

Ghee prepared with kalka or kwatha of vidarigandhadi gana

Use of all nasyadi methods described in ardita roga

After snehana, abhyanga tikshna avapeedan nasya

Sirobasti, dhuma. Upanaha. Nadi sweda

Pana & abhyanga with ksheera taila

Samprapti of pratishyaya:

Vitiated vata, pitta and kapha together with rakta or separately get localised in shira (sushruta), nasa (A.H.), ghranamula (charaka) due to various etiological factors.

Continuation of unwholesome diet and habit aggravated vayu drugs the previously stagnated kapha and other dosha towards nostrils and thus precipitates pratishyaya.

2. Pittaja pratishyaya / acute viral rhinitis / common cold / coryza:

Hetu:

Hot & yellowish discharge from nose

Patient suffering from pandu varna, santapa & trishna.

Sudden release of fumes & burning sensation from mouth and nose

Fever

Inflammation on top of nose

Chikitsa

Ghratapana processed with kakoliyadi gana

Parisheka with kwatha of sheetala drugs

Lepa with sheetal drugs

Virechana with yashtimadhu adi madhura dravya

Dhavadi taila nasya or bhringaraja swarasa

Shirovirechana nasya

3. Kaphaja pratishyaya / rhinitis caseosa:

Hetu:

Cold & white discharge from nose

Whitish coloured body

Inflammation of eyes

Heaviness of head & mouth

Itching in head, throat, lips, palate

Chikitsa:

Snehana with ghritapana → yavagu of tila + masha → vamaana

Kaphashamaka drugs

Peyadi sansarjana krama

Nasya with baladi taila

Trivruta, apamarga, devadaru, dantimoola → varti → dhmapana

Manahshiladi churna nasya

Bharangyadi taila nasya

4. Sannipataja pratishyaya:

In sannipataja pratishyaya, there is intense pain and all the symptoms described for vatadi doshas, which give more trouble.

The pratishyaya that occurs again and suddenly also calms down on its own.

Sometimes it becomes pakwa, sometimes Apakva

Symptoms of all types of pratishyaya are also reflected.

Chikitsa:

Ghritapana processed with katu & tikta dravya

Dhumapana with tikshana dravya.

Churna, gutika, avaleha prayoga of katu dravya

Rasanjanadi taila nasya

Mustadi kavala

Talisadi churna

Lavanadi vati

5. Raktaja pratishyaya / atrophic rhinitis / ozaena:

Hetu:

Raktavarna discharge from nose

Eyes resembles tamravarna

Gandhanasha or bad smell from swasha & mukha.

Maggots finds in nasha-sweta, snigdha, sukshma

Lakshana of krimijanya siro roga.

Chikitsa:

Ghritapana processed with kakolyadi gana

Shital pariseka

Leha with shital pariseka

Dhavadi taila nasya

Treatment same as pittaja pratishyaya

Upadrava of pratishyaya:

Dushta pratishyaya, deafness, blindness, anosmia, severe eye diseases, cough, dyspepsia and shopha

6. Dushta pratishyaya (rhinosinusitis – RS):

Charaka:

By neglecting the pratishyaya, dushta pratishyaya is generated and blocks the nasa srota/ due to this, following things arises.

1. Nasaparistrava
2. Nasashosha
3. Nashapaka

Due to this, the sense of smell of patient is destroyed

Foul smell comes from the mouth

Often suffers from pratishyaya

When it is accompanied by all the above symptoms, it is called as ‘dushta pratishyaya’.

Sushruta:

Nose sometimes dry and sometimes clogged (wet).

The nostrils are sometimes closed and sometimes open

Foul smell in breath and exhalation

Sense of smell destroyed

When it is associated with the above symptoms, it is termed as dushta pratishyaya. It is kasta sadhya.

Failure to counteract or neglecting the pratishyaya of all types gives rise to dushtapratishyaya.

Thus, these pinus generates –

1. Badhirya
2. Andhata
3. Severe Netraroga
4. Kasa, agnimandhya, shopha

Not in 31 diseases (nasa roga)

Chikitsa:

Snehapana is performed with ghrita processed with trikatu, chitraka, yavakshara, bijaka, vidanga & meat juice mixed with madhu.

Avapeedana nasya with surasadi gana dravya, vidanga kwatha, apamarga taila, go mutra etc.

When nasal passage is cleansed, patient is submitted again to snehana and virechana,

Ghritapana processed with mustadi dravya

Niruha & anuvasana basti is given to patient with tikshna dravya

Sitopaladi churna, Talishadi churna, dashamoola ghrita, rasnadi ghrita, baladi ghrita, jivantyadi ghrita advised

Tikshna dravya yukta dhumapana

A.H.: rajyakshma nasaka & kriminashaka chikitsa advised.

Nasanaha / nasa pratinaha (rhinoscleroma / deviated nasal septum (DNS)):

When udana vayu covered by kapha get vitiated and stagnated in its own channel; causes distention of nasal passage, thereby obstructing the inspiration and expiration.

This condition is called ‘nasanaha / nasa pratinaha’.

Dosha: vata & kapha

Chikitsa:

Post meal snehapana with cow's ghrita is the main remedy

Balataila is specifically advised for abhyanga, anuvasana, shirobasti, upanaha etc.

Snigdha dhumapana and salvana upanaha is used.

Nasya is performed with taila processed with ksheerasarpi, or kakolyadi gana.

Meat juice is used in meals.

Shirovirechana nasya is performed if the condition does not subside by all above measures.

Anutaila along with other measures should also be employed.

Kshavathu / bhrushakshava (non-allergic non infective rhinitis (NANIR)):

Charaka:

In this disease the vayu of the head gets dependent on all the regions and by touching the nasagata marmas, produces kshavathu roga.

Sushruta:

Acharya sushruta has described the symptoms of doshaja kshavathu and agantuja kshavathu separately.

1. Doshaja kshavathu:

Vitiated vayu along with kapha in the vicinity of shrungataka marma; when get suddenly expelled through nose with a lot of noise and is followed by profuse of kapha; the disease is called doshaja kshavathu.

2. Agantuja kshavathu:

Excessive use of teekshna dravya like rai, maricha etc.

Smelling katu substances like sunthi, maricha, pippali, tambula etc.

Gazing at sun

Repeatedly inserting a piece of cloth into nose

This vitiates vayu irritates the nasal cartilage, deviated its path, proceeds to shrungataka marma and while returning from there induces too much of sneezing. This is called 'agantuja kshavathu' by dalhana or 'bhrushakshava' by A.H.

Chikitsa:

In doshaja kshavathu prathamana nasya should performed

Svedana of shira with vata alleviating drugs followed by shirobasti, snigdha dhumapana.

Snigdha dhumapana with ghrita, guggulu, madhu

In agantuja kshavathu strong prathamana nasya with ghrita or taila processed with shunthi, kushtha, pippali, vidanga, mrudvika

Nasagata raktapitta (Epistaxis):

Nirukti: पितेतदुद्धं रक्तम्

Nasagata raktapitta

1. Doshaja chaturvidhama: vataja, pittaja, kaphaja, sannipataja
2. Dwiprabhavam:

Yakruta, pleeha

Amasayaja, pakwasayaj

Snigdhoshna, rukshoshna

3. Dwimarga:

Urdhwaga

Adhoga

The localised manifestation of generalised urdhvagata raktapitta, is called as ‘nasagata raktapitta.’

The disease is of 4 types viz. vataja, pittaja, kaphaja and sannipataja. It escapes out through the body either in upward or downward direction. It gets generated in yakrut and pleeha or in amashaya and pakvashaya.

Dosha: as in nasagata raktapitta, pitta, rakta & vata

Location: bleeding through nose -from proper nose or shiro nasa abhigata.

Clinical features:

According to dosha

1. Vataja: thin, rough, foamy, black nasal bleeding
2. Pittaja: blood is blackish / yellowish like decoction, smoky and resembles as agaru and anjana.
3. Kaphaja: blood appears bulk, oily, sticky and in white colour
4. Tridoshaja: mixed symptoms of vata, pitta & kapha doshas.

Sadhyasadhyata:

Urdhwaga raktapitta – sadhya by virechana

Adhoga raktapitta: yapy by vama

Tiryaka raktapitta: asadhya

Chikitsa:

Dosha viparita mukhi chikitsa

After expelling the dushita blood the following treatment should be given.

Sandhana: avoiding the wound margin or suturing the lesion.

Skandana: processing of blood coagulation by dusting medicated powder

Pachana: medicated cauterisation the wound

Dahana: electric cauterisation agnikarma

Sodhana therapy in strength patient

Cause should be treated whether local or systemic

Cool application of drops, dusting the powders. E.g., musta, nagakesara, chandana, Usheera, durva

Nasya with milk & sugar, ghrita pichu, durvadighrita, panchaksheeri kashaya, vasa ghrita, yastimadhu ghrita.

Oral administration with vasa swarasa, durva swarasa + madhu + ghrita, Chandanasava, Ushirasava

Nasharsha (nasal polyp):

Acharya charaka has not described nasharsha

Sushruta: 4 types:

- | | |
|------------|----------------|
| 1. Vataja | 3. Kaphaja |
| 2. Pittaja | 4. Sannipataja |

General features:

Excessive nasal discharge and frequent sneezing

Difficulty in breathing & exhalation

Emitting foul smell from nose

Hyponasal voice

Headache

Treatment:

1. Shashtra / kshara / agnikarma:

This should be decided upon the size of nasharsha.

If it is small, ksharakarma / alkali and agnikarma should be performed whereas for big ones excision followed by kshara and agnikarma is advised.

2. Use of varti:

Varti should be prepared by soaking it in madhu and ghrita added with paste of trivruta, danti, chitraka, saindhava, pippali, manahshila and ela; and should be sustained in nose.

3. Nasya:

Nasharsha is taken care of with nasya performed with tila oil processed with paste of red karaveera, jati, mullika flowers.

Snehana, vamana, virechana etc. should be performed as per predominant dosha.

Rakta karaveera pushpa taila nasya, shikhari taila, godhuma taila, chitraka taila

3. Brief Knowledge of Putinasa, Bhranshathu, Peenasa, Apeenasa, Nasarbuda, Nasashotha, Dipta, Nasa Sandhana.

Putinasa (atropic rhinitis on frontal sinusitis) (pathological CSF rhinorrhoea / ozaena):

Sushruta:

After vidagdha of vitiated pitta, rakta & kapha at gala & talumul, expel foul smelling by vitiated of vata through nose & mouth is known as 'putinasya or putinasa'.

Charaka:

By neglecting pratishyaya, symptoms of discolouration, foul smell, shotha, bhrama etc. arise in the nose. This is called putinasya

Videha:

In this disease, kapha, pitta & rakta get accumulated in the brain, getting disturbed by heat there, thickens the secretion

They cause severe pain in eyes & sankha pradesha

After this there is discharge of yellowish colour mixed with foul smelling blood from nose & foul smell comes from breath

The patient also gets rashes & fever

Sadhyasadhyata: sadhya

Chikitsa:

Snehana, swedana, vamana, Mruduvirechana, dhumapana, Avapidana nasya, sneha nasya, langhana, teekshana ushna, laghu bhojana, hot water for drinking & bathing.

Sushruta: treat like apeenasa

A.H.: treat like kaphaja pratishyaya / Peenasa

Oral intake: guda + dadhi + maricha

Guda + ghrita + godhuma pista

Avapeedan nasya with hingu, trikatu, shigaru, vidanga, karanja

Sneha nasya with sarshapa taila, vyaghree taila, sadbindu ghrita & taila etc.

Bhranshathu / nasopharyngitis (mucoid discharge / sinusitis) (hypertrophic rhinitis):

Charaka, A.H. & A.S. has not described this disease

Accumulated kapha at head & nose dissolved or melted and burnt by ushna guna of pitta and expels sticky mucus discharges through the nasal cavity is known as 'bhranshathu'.

It is the pakwa avastha of kshavathu.

Dosha: kapha & pitta

Location: shira & nasa

Sadhyasadhyata: sadhya

Chikitsa:

Pradhamana nasya: it is performed with powders of shirovirechana dravya like kataphala, vidanga, maricha etc. the powder is insufflated into nostril through a hollow tube.

Elimination of kapha by pradhmana nasya causes vata aggravation. Hence, sweda, shirobasti & snigdha dhumapana is executed for mitigating aggravated vata.

Dhumapana with ghrita, guda & madhu cures both kshavathu & bhramshathu.

Peenasa:

Acharya sushruta, charaka & vagbhata, the word pinus has been used synonymously with pratishyaya.

According to bhavaprakasha, apinus, pinus & pratishyaya are the same disease.

Acharya charaka uses the word pratishyaya to describe samprapti & symptoms whereas the word pinus in the context of chikitsa.

In the context of dushta pratishyaya, some acharya use the word 'pinus' & sometimes the word 'pratishyaya'.

Sometimes

Pratishyaya < Peenasa < apeenasa: → → → progressive stage

Apeenasa: (atrophic / chronic rhinitis)

Charaka:

There is a feeling of irritation, dryness, stiffness in the patients's nostril and feels like smoke comes out of the nose.

Patient does not have knowledge of smell & taste.

This disease caused by the combination of vata & kapha and same symptoms like pratishyaya.

The patient's nose gets blocked due to aggravation by vata & kapha

Smoke appears to be coming out of nostrils.

Nasa sometimes wet sometimes dry.

Knowledge of rasa & gandha block.

A.H.:

Vitiated kapha causes nasal obstruction, ghurghura noises, difficulty in respiration, continuously yellowish sticky discharge and causes loss of smell sensation is called apeenasa.

Sadhya

Chikitsa:

Snehana, swedana, vamana, virechana, laghu teekshna ushna ahara

Hot water intake, dhumapana, nasya

Navana nasya with Pathadi taila, shigru taila, vyaghree taila, sadbindu ghrita

Avapidana nasya with hingu, trikatu, laksha, tulsi, katphala, vacha, sarshapa, vidanga, karanja, shigru, prepared swarasa for Avapidana nasya.

Dhuma nasya with madhuschita + guggulu

Oral administration:

- Guda + dadhi + maricha
- Chitraka ksheera
- Panchamula ksheera
- Katphala churna
- Vyoshadi vati

Nasarbuda (tumours in nose):

Charaka:

Mamsa, rakta & vatadi doshas get contaminated and stop the movement of breath and generate tumours in nasika.

Sushruta: 7 types:

1. Vataja
2. Pittaja
3. Kaphaja
4. Raktaja
5. Sannipataja
6. Mamsaja
7. Medaja

The rakta & mamsa are vitiated doshas and produces a round hard and deep growth is known arbuda.

Symptoms:

Difficulty in breathing is a common symptom of nasarbuda

In addition, pinasa, kshavathu, hyponasal voice, putinasa and headache are also found in nasarbuda.

Chikitsa:

Shastrakarma – nasarbuda should be firmly clamped with badish yantra and should be evenly excised at its root with mandalagra shastra.

Tumour is then removed.

Dahana / vranashodhana, followed by cauterisation with hot shalaka

Lepa – paste of shita virya dravya should be applied after dahana.

Nasya – after wound healing, nasya with sarshapa or karanja taila processed with teekshana, ushna and lavana drugs added with cow's urine & lodhra powder.

Nasha shotha:

Charaka:

Vata, pitta & kapha aggravates in nose vitiates rakta & nasagata dhatu leads to originate nasa shotha.

Sushruta: 4 types:

1. Vataja
2. Pittaja
3. Kaphaja
4. Sannipataja

Chikitsa:

Dugdha, ghrita & anu taila kalka → tailapaka → nasya

Ghritapana

Apply taila processed with langali

Swedana with langali

Snehana dhumapana.

Deepta / deepiti (acute viral rhinitis) (furuncle with cellulitis):

Rupa:

Severe burning sensation is felt due to vitiated rakta in nasa

There is a feeling as if nose is ignited both from inside and outside along with severe hyperesthesia

this condition is called Deepta (Su.) / Deepti (A.H.)

dosha: pitta & rakta

sadhya

Sign & symptoms:

Severe burning sensation in the nasal cavity

Intolerable pain

Tenderness of nose

Smoky feeling in the nasal cavity.

Chikitsa:

All local and systemic pitta alleviating measures are undertaken in this disease like shodhana, lepa, seka etc.

Madhura and sheeta dravya, yusha of mudga should also be used in meals of patients.

Jalaukavacharana should be performed.

Nasya – slight swedana is performed on head as purva & paschat karma followed by nasya with nimba & rasanjana.

Sechana – nasya is followed by sechana of milk & water on nose.

Nasa sandhana:

Cause:

When nose has been cut off or chopped off in accidents or violence and looks ugly appearance of face.

Procedure:

Taking a tree leaf of the size of nose and placing it on cheeks, a flap should be raised of the same size from the side of cheek maintaining its continuity.

It should then be approximated to the front part of nose after making the nose raw then surgeon should quickly suture the same by correct technique.

Having examined the nose which has been properly sutured & correctly shaped, the same should be fixed by two tubes and elevated.

Then the powder of raktachandana, madhuka & rasanjana should be sprinkled on the nose after elevating it.

It should be dressed properly with white cotton and should do tila taila Parishechana repeatedly.

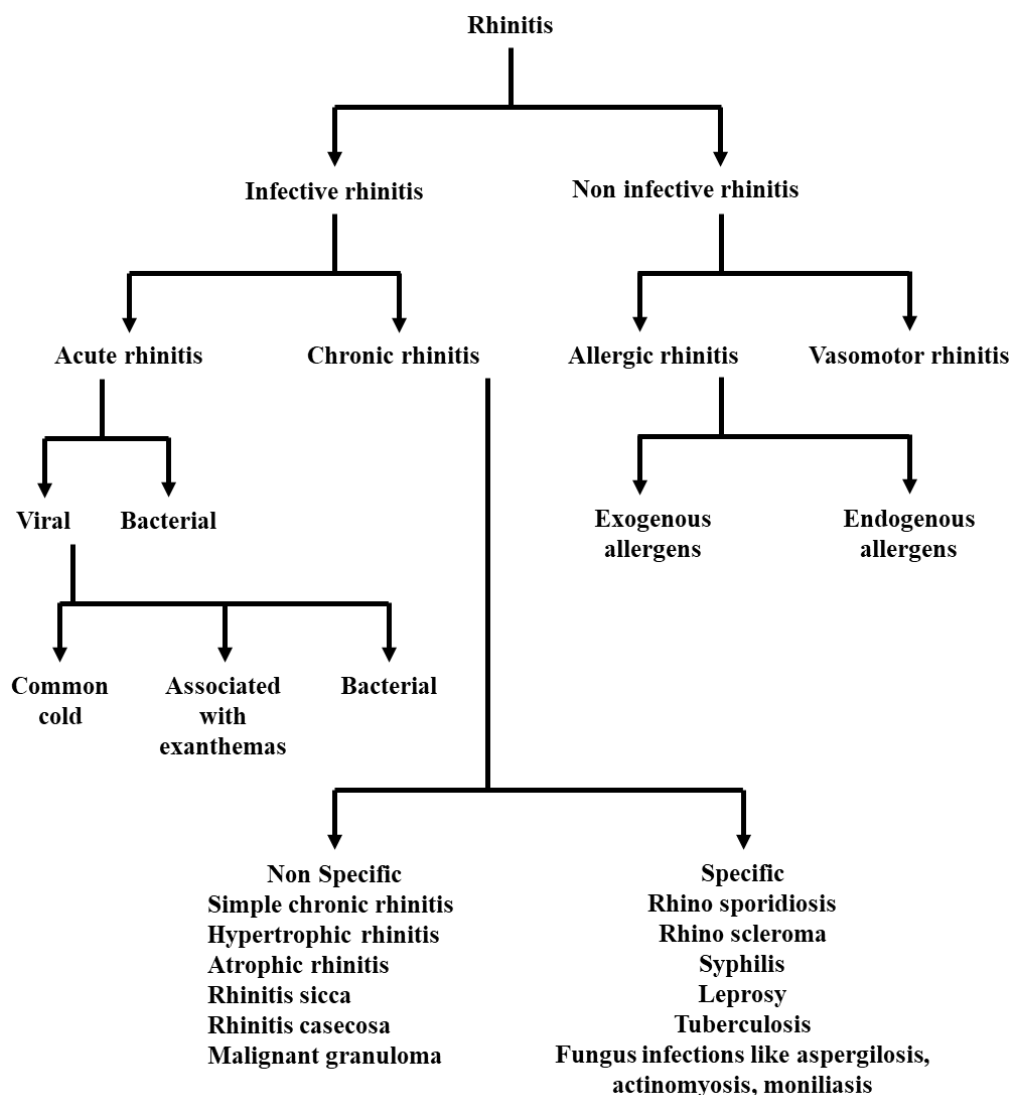
Ghrita should be administered to patient after the previous meal has been properly digested & purgatives should be prescribed as instructed.

When graft has properly taken up, base of same has been snapped. The short, graft should be elongated & long graft should be made uniform.

4. Detailed study of Rhinitis & Sinusitis Epistaxis, Nasal Polyp, DNS, Foreign body including their Etiology, pathology, clinical features differential diagnosis and medical & surgical management.

Rhinitis:

Rhinitis is inflammation of the nasal mucous membrane owing to infection, allergy and trauma.



Acute viral rhinitis / common cold / coryza:

Aetiology:

Initially it is caused due to various viruses like adeno virus, rhino virus, influenza virus etc. and spread either by direct contact or by air born droplets.

Secondary infection by various bacteria like streptococcus haemolyticus, pneumococci, staphylococci, haemophilus influenzae may occur in later stage.

Pathology:

In the initial stage transient vasoconstriction followed by vasodilation, edema and increased nasal secretion occurs.

Clinical features:

Initially, there is burning in the nasopharynx followed by irritation, sneezing, watery nasal discharge and blocking of the nose; fever headache and anosmia may also be present.

In the later stage thick yellowish or greenish discharge occurs due to secondary bacterial infection.

Complications:

Pharyngitis, laryngitis, tonsillitis, sinusitis, acute otitis media, bronchitis, pneumonia occurs due to spread of secondary infections.

Treatment:

Analgesics, antihistamines are useful for controlling the acute symptoms.

Antibiotics are given if secondary bacterial infections are present.

Steam inhalation, bed rest, decongestant nasal drops are also useful.

In normal course resolution occurs in 5 – 10 days.

Irritative rhinitis:

Irritation of the nasal mucosa due to dust, smoke, irritating gases, trauma will cause irritative rhinitis.

It will cause sneezing, nasal discharge

Symptoms will be reduced as soon as the patient moved away from the causative factors.

Treatment: same as acute viral rhinitis.

Bacterial rhinitis / nasal diphtheria:

It is a rare condition now a days. It may be primary or secondary to faucial diphtheria.

A greyish white membrane covering the nasal septum and the floor of the nose is seen which bleeds if removed.

Treatment:

10000 units of diphtheria antitoxin along with systemic penicillin should be given, patients should be isolated.

Chronic rhinitis:

It is caused due to chronic inflammation of nasal mucous membrane by various specific & nonspecific infections.

Chronic simple rhinitis:

Aetiology:

Recurrent attacks of acute rhinitis due to various underlying causes like sinusitis, tonsillitis, DNS, vasomotor rhinitis, hypothyroidism, excessive intake of carbohydrates, general debility etc.

Clinical features:

Nasal obstruction: worse on lying and usually seen on dependant side of the nose, it is caused due to swollen turbinates.

Nasal discharge: thick, viscid, mucoid or mucopurulent discharge is present which may also be seen on pharyngeal wall.

Headache

Treatment:

To treat underlying cause

Alkaline nasal douching will help to remove the thick viscid secretions.

Nasal decongestant drops are useful in relieving the nasal obstruction due to swollen turbinates.

Chronic hypertrophic rhinitis:

Aetiology:

Same as chronic simple rhinitis and secondary to excessive use of topical decongestant

Clinical features:

Nasal obstruction is the predominant symptom caused due to hypertrophy of turbinates. The mucous membrane is thick and does not pit on pressure. Nasal decongestants are not effective due to excessive underlying fibrous tissue. Maximum hypertrophic changes are seen in inferior turbinates.

Treatment:

Electrocautery submucous diathermy, cryosurgery, laser and partial or total turbinectomy are the various methods of relieving the obstruction due to hypertrophic turbinates.

Atrophic rhinitis / ozaena:

Definition:

Atrophic disease of the nasal mucosa & underneath bone characterised by enlarged nasal cavity filled with infected and dried crusts / infected secretions having typical foul smell like a stench.

Aetiological factors:

The possible infective organisms are bacillus mucosus, P. Vulgaris, streptococcus, staphylococcus.

Various infections like rhinoscleroma, syphilis, lupus and leprosy may cause atrophic mucosal diseases.

Endocrine factors, hereditary factors, poor nutrition and autoimmunity are also responsible.

Pathophysiology:

Mucus secreting glands undergoes profound degenerations

Endarteritis & periarteritis are also key changes which make the mucosa vulnerable for crusting and removal of these crusts make them bleed which subsequently dries and crusts again.

Bone resorption & turbinate destruction leading to roomy nasal cavity.

Metaplasia from respiratory epithelium to squamous is also a feature.

Clinical features:

Nasal obstruction and recurrent epistaxis

Loss of sense of smell

Foul smelling from the nasal cavity of patient.

On examination: removal of the crusts leads to bleeding and underneath ulcerative mucosa or exposed bone sometimes.

Investigation:

CBC

CT scan of paranasal sinuses

Nasal secretion histocytological examination

Management:

1. Medical:

Nasal douching with saline twice daily

Local application of 25 % glucose in glycerine after crust removal

Local application and submucosal injection of placental extract is found to be effective.

Rifampicin 600 mg in OD dose for 12 weeks.

2. Surgical:

Submucosal injection of paraffin

Narrowing the nasal cavity by inserting cartilage, bone or Teflon strips under mucoperiosteum or by submucosal injection of Teflon paste.

Submucosal injection of Teflon in glycerine paste to narrow the cavity

Young's operation

Rhinitis sicca:

It is characterised by crusting in the anterior one third of the nasal cavity, especially the septum.

It is mainly seen in the patients working in hot, dry, and dusty atmosphere which causes drying of the nasal secretions.

Removal of the crusts causes ulceration and epistaxis.

It may also cause septal perforation

Treatment:

Lubricating the nose with Vaseline oil or bland ointment containing antibiotic and steroids

Alkaline nasal douching is also helpful

Nose picking is to be avoided

Hot, dry and dusty environment should be avoided if possible.

Rhinitis caseosa:

This is a rare chronic inflammatory condition of the nose associated with formation of granulation tissue and a cheesy epithelial debris in the nose, this may result from chronic sinusitis, presence of foreign body or due to disintegration of nasal polyp.

Treatment:

Removal of caseous material

Improving of nasal hygiene

Allergic rhinitis:

It is a common disorder found in near about 10% of population.

It is caused due to any specific air borne allergens which produce IgE antibodies. This antibody is known as reaginic antibody.

This antibody, when reacts with the antigen on subsequent exposure, causes degradation of mast cells along with release of many mediator substances like histamines, producing symptoms of allergy.

Similarly, some nonspecific stimuli like temperature, humidity, emotional status, air pollution, viral infection also causes similar reaction in the nasal mucous membrane.

Clinical types:

1. Seasonal: it occurs in a particular season when the pollens from grasses, flowers, trees etc. are present in the air to which patient is sensitive.
2. Perennial: it can occur at any time throughout the year and is caused by inhalation of house dust, smoke, spores, perfumes, after consuming milk, egg, fish, contact with epithelial debris from cats, dogs, house mite etc.
Perennial allergy is comparatively mild than seasonal allergy.

Pathology:

Due to antigen antibody reaction, histamine is released which causes vasodilation resulting in oedema and nasal blockage.

Similarly, infiltration of eosinophils and neutrophils occurs. The mucosal glands are stimulated causing copious secretions.

Secondary infection may occur due to oedema and blockage causing purulent discharge.

Polyp may also be seen.

Clinical features:

Recurrent paroxysmal sneezing 10 – 20 sneezes at a time

Rhinorrhoea

Intense irritation & itching in nose as well as in eyes, palate & pharynx.

Nasal obstruction due to oedema.

Intermittent or continuous anosmia due to oedema

Post nasal drip causes chronic cough and eustachian catarrh.

Diagnosis:

Elevated IgE levels in serum.

Nasal secretions cytology for eosinophils

RAST: radioallergosorbent test

AEC: absolute eosinophilic count.

Differential diagnosis:

Rhinitis medicamentosa (due to prolonged use of topical decongestant nasal drops)

Hormonal rhinitis (pregnancy, hypothyroidism & OC pills)

CSF rhinorrhoea

Treatment:

Treatment should be aimed to avoid contact with allergens and desensitizing of the allergens.

Antihistaminics, decongestants, local steroids are helpful in relieving the symptoms.

Complications:

Recurrent sinusitis, polyp, otitis media & bronchial asthma

Vasomotor rhinitis / nonallergic rhinitis):

Vasomotor rhinitis is chronic rhinitis that is characterised by intermittent episodes of sneezing, watery nasal drainage and congestion of the nasal mucous membrane.

Age of onset is early adulthood.

More common in the women than man.

Pathophysiology:

Hyper response of the autonomic nervous system leading to release of neurotransmitters in nasal mucosa which is expressed by vascular engorgement and congestion of the nasal mucosa.

Etiological factors:

- A dry atmosphere
- Air pollution & inorganic dust
- Certain medication e.g., aspirin, ibuprofen
- Strong emotions or stress
- Chronic health conditions

Clinical features:

- Watery rhinorrhoea
- Nasal congestion
- Hyposmia
- Inferior turbinate hypertrophy
- Postnasal drip
- Nasal polyps

Investigations:

Allergy test to rule out allergic rhinitis

Blood test to determine total blood level of IgE & total circulating eosinophils count

CT scan of the sinuses

Treatment:

1. Medical management:

Nasal topical steroidal sprays: fluticasone, propionate, mometasone

Anticholinergic agents: ipratropium bromide

Decongestants: pseudoephedrine, oxymetazoline, xylometazoline

Mast cell stabilizers

2. Surgical management:

Vidian neurectomy

Submucosal cauterization

Turbinate reduction / resection surgery

Sinusitis:

Inflammation of mucous membrane lining of paranasal sinuses is called as 'sinusitis'. It may be acute or chronic.

Maxillary sinuses are mostly affected whereas sphenoidal sinuses are rarely affected.

Acute maxillary sinusitis:

Predisposing factors:

Spread of nasal infection: nasal oedema due to allergy or vasomotor rhinitis, DNS, hypertrophic turbinates, nasal polyps, forcible blowing of nose during acute infection along with other conditions like chronic tonsillitis, adenoids etc.

Trauma

Spread of dental infections

Causative organism:

Viral infection is mainly responsible, followed by bacterial

Bacteria: streptococci, pneumococci, staphylococci, bacillus coli etc.

Clinical features:

Pain: pain in the maxillary region radiating to eyes, frontal sinus

Tenderness: maxillary tenderness is present over the canine fossa.

Headache, fever, malaise

Nasal drainage: initially mucoid but later on purulent due to secondary infection, may be blood stained. Foul smelling discharge indicates dental infection.

Diagnosis:

X-ray of PNS

CT scan

Treatment:

Antibiotics like ampicillin, erythromycin should be given

Nasal decongestant like 1% ephedrine is useful to reduce the congestion & mucosal oedema.

Steam inhalation

Analgesics will relieve the pain & headache

Antihistaminics

Surgical treatment:

Antral puncture

Acute frontal sinusitis:

Most of the time it is secondary to maxillary sinusitis.

Clinical features:

Frontal headache: it is severe with a characteristic periodicity i.e., it starts in the morning, reaches its peak in the afternoon and then gradually subsides due to drainage of secretions from the sinus due to gravity.

Tenderness: pressure over medial part of sinus floor near inner canthus will cause severe pain.

Nasal discharge: a vertical streak of mucopurulent discharge is seen high up in the middle meatus.

Diagnosis: X-ray PNS will reveal opacity & fluid levels.

Treatment:

Medical: same as acute maxillary sinusitis

Surgical: trephining the frontal sinus

Endoscopic sinus surgery is more beneficial

Ethmoidal & sphenoidal sinusitis:

Both are less commonly seen but are usually associated with orbital or intracranial complications.

Chronic sinusitis:

Long standing infection will lead to chronic sinusitis.

The normal ciliated epithelium is damaged thereby causing stagnation of sinus secretion. The mucous membrane becomes thick or may undergo atrophic changes ultimately leading to fibrosis and polyp formation.

Chronic stage is commonly seen in maxillary & frontal sinusitis

Clinical features of chronic sinusitis:

Similar to acute sinusitis but are mild in nature

In chronic maxillary sinusitis purulent nasal discharge is present

Dry hawking cough is caused due to post nasal discharge.

Sometimes anosmia is present.

Treatment:

Endoscopic sinus surgery

Aim of surgical treatment is to keep free drainage & ventilation

Radical sinus surgery like caldwel luc operation

Epistaxis:

Bleeding per nose is called as epistaxis

It is a symptom, not a disease.

Most are benign and doesn't need hospitalization.

Nasal septum as well as lateral wall is richly supplied by many blood vessels at little's area.

Here the vessels are situated submucosally and are exposed to atmospheric air any minor trauma causes bleeding and this is the most common site of epistaxis.

It can occur anteriorly as well as posteriorly.

Frequent bleeding sites of the nasal cavity.

Little's area

Retrocolumellar vein

Woodruff's area

Causative factors:

1. Local:

- | | |
|--|---|
| • Acute infective rhinitis: viral & bacterial both | • Atrophic rhinitis |
| • Chronic granulomatous nasal diseases | • Septal perforations |
| • Traumatic | • Inhalants: tobacco, wood dust, cannabis |
| | • Excessive use of decongestants |

2. General:

Platelet related disorders: thrombocytopenia, leukemia

Vit. Kwatha deficiency, Vit Churna deficiency

Hepatic failure

Kidney disease.

Autoimmune vasculitis

Hypothyroidism

3. Idiopathic:

Investigation:

- Haemogram
- CT, BT
- X-ray
- CT scan

Management:

First aid

Ice cold pack

Pinching the nose at little's area for 10 minutes

Bleeding points can be cauterised by chemical or thermal cautery.

After local anaesthetic packing anterior nasal packing

Posterior nasal packing

Ligation of the blood vessels supplying the nasal cavity is the last alternative.

Bed rest, sedatives

Use of coagulants like vit churna, vit k, calcium etc.

Antibiotics to prevent secondary infections

Blood transfusion is helpful in profuse bleeding.

Classification of epistaxis:

	Anterior epistaxis	Posterior epistaxis
Incidence	More common	Less common
Site	Little's area	Post. Superior, part of nasal cavity
Age	Children & yours	After 40 years
Cause	Mostly trauma	Hypertension or arteriosclerosis
Bleeding	Usually mild, easily controlled by local pressure or anterior nasal pack	Bleeding is severe, requires hospitalisation, postnasal pack often required.

Nasal polyp:

A pedunculated, oedematous, nasal or sinus mucous membrane is called as nasal polyp. It is a common non-neoplastic disorder.

Etiological factors:

Vasomotor disturbance

Polysaccharide changes in the nasal mucosa

Allergic reactions and chronic inflammatory conditions of nasal mucous membrane are mainly responsible for nasal polyp.

Types:

There are two types depending upon the site of origin.

1. Antrochoanal polyp:

Originates from the maxillary sinus (antrum) and after coming out from the sinus ostium in middle meatus directed posteriorly and towards choana hence called antrochoanal polyp.

It may fill the nasopharynx and sometimes even visible in oropharynx.

It is common in children & often unilateral, dumbbell shape and single.

2. Anterior ethmoidal polyps:

The site of origin of ethmoidal polyps are middle meatus area, ethmoidal roof and middle turbinate.

They are relatively smaller in size, primarily adult pathology, seen like a bunch of grapes (multiple) with bilateral presentation

They are many a times are visible in anterior rhinoscopy as they grow towards the nares.

Clinical features:

Nasal obstruction

Rhinorrhoea

Excessive sneezing

Hyposmia

Pain – facial & forehead pain

Visible mass in the nasal cavity

Epistaxis, sinusitis, mouth breathing

Investigation:

X-ray with open mouth

CT scan PNS

Treatment:

Medical:

Oral steroids: prednisolone, dexamethasone, betamethasone

Topical steroidal nasal sprays

Surgical:

Simple polypectomy

Intranasal ethmoidectomy

Functional endoscopic sinus surgery (FESS)

Removal with caldwell luc operation

Deviated nasal septum (DNS):

Extremely common cause of deviated, crooked or misaligned nose

More than 90% of the general population has got some degree of but rarely symptomatic.

Both cartilaginous and bony segment may be involved in DNS.

Etiology:

Development of error: rapid growth of the nasal septum as compared to face causes deviation and it is the commonest cause.

Trauma, tumour or nasal polyps, high arched palate.

Classification:

1. Spurs: sharp deviation as a result of vertical direct injury of the septal cartilage which can lead to fracture of the cartilage.
2. Deviations: they represent a class of less acute angulations and named as per they possess typically named as 'c' shape or 's' shape
3. Anterior dislocation
4. Mucosal thickening it may be due to haematoma or overriding of cartilaginous fragments.

Clinical presentation:

Nasal obstruction: in 'c' shape the obstruction persistent unilateral obstruction and in 's' shaped deviation bilateral obstruction is common cottle test is frequently used to confirm a nasal valve area blockage.

Excessive crusting, ulceration and bleeding

Pain in the nasal cavity and headache

Hyposmia / anosmia

Deformity of external nose

Compensatory turbinate hypertrophy.

Complications:

Recurrent sinusitis

Middle ear infection

Mouth breathing

Asthma

Atrophic rhinitis

Surgical management:

Early stage: decongestant drops, antibiotics

Later: classical submucous resection (SMR) operation

Septoplasty

Endoscopic septoplasty

Extracorporeal septoplasty

Nasal foreign bodies:

Nasal foreign bodies are commonly seen in children.

They may be organic like seeds, grams, or inorganic like piece of paper, beads, buttons, chalk etc.

Cotton wool or swabs may be accidentally left.

Similarly, maggots are also seen in some patients.

Clinical features:

1. History: the parents may or may not give proper history about the time, duration and type of F.B.
2. Pain, bleeding, sneezing, blocking etc. may present
3. In unilateral foul smelling and blood-stained discharge, an old impacted. F.B. should be suspected which might have over looked.

Diagnosis:

Anterior rhinoscopy

X-ray

Treatment:

Blowing the nose or inducing the sneezing may expel the foreign bodies situated anteriorly

Cotton swab, piece of paper can be removed with forceps.

Buttons, seeds can be removed by a blunt hook.

Foreign bodies situated far behind in the nose are pushed back into the nasopharynx and then removed.

In children and in non-co-operative patients general anaesthesia should be given.

Complications:

A slipped F.B. may be swallowed or it may enter the trachea.

A rhinolith may form over an old impacted F.B.

Nasal infection, sinusitis etc.

5. Brief Knowledge of Nasal trauma, Tumours of nose and Para nasal sinuses.

Nasal trauma:

It is an injury to nose or the areas that surround & support nose internal & external injuries can cause nasal trauma.

Types:

1. Nose bleeds
2. Fractures
3. Chemical irritation or injuries inside of nose
4. Obstruction by a foreign object

Causes:

1. Causes of external trauma: fall
Sports injury
Motor vehicle accidents
Physical abuse
2. Causes of internal trauma: cartilage or blood vessels inside nose damaged
Infection from nasal piercing
Irritation by inhaling certain substances
Sniffing cocaine
Foreign object lodged in nose

Clinical features:

Pain in & around nose
Bleeding from nose
Clear fluid from nose
Swellings of face, particularly around nasal area
Loss of sense of smell
Trouble breathing

Treatment:

First aid & home care by apply ice, pressure in nose etc.
Medication like painkillers, antibiotics, nasal sprays etc.
Cauterization or packing
Surgery: reconstructive surgery for repair of nasal fracture.

Tumours of nose and paranasal sinuses:

Benign tumours are not so common in nose & para nasal sinuses

Benign tumours are:

1. Papilloma: single or multiple, sessile or pedunculated
2. Adenoma: rare but may become malignant
3. Haemangioma: commonest is capillary type occurs at septum. Excision & cautery is the treatment.
4. Fibroma: rare, commonly arises from septum & turbinates
5. Osteoma: 3 types 1. Compact osteoma 2. Cancellous osteoma 3. Fibrous dysplasia
6. Chondroma
7. Osteoblastoma
8. Chondroma
9. Rhinophyma

Malignant tumours of nose & paranasal sinuses occur 0.2% of the malignancy of total body
Rare in the nasal cavity, more frequent in maxillary sinus, less frequent in ethmoidal sinus,
rare in frontal & sphenoid sinus.

1. Squamous cell carcinoma: eruption of bleeding polypoidal mass causes nasal obstruction & bleeding
2. Adenocarcinoma: occurs in maxillary sinus
3. Melanoma: rare blackish mass develops inside nose
4. Chondro sarcoma & metastatic tumours: rare
5. Inverted papilloma: on lateral wall of nose as red or greyish mass
6. Olfactory neuroblastoma: on cribriform plate of ethmoid bone.

Clinical features:

Nasal obstruction

Epistaxis

Blood-stained nasal discharge

Pain & headache

Peripheral lesions like toothache, swelling of cheek & palate etc.

Diagnosis:

- X-ray
- CT scan PNS
- Biopsy of growth
- MRI PNS

Treatment:

Excision (surgery)

Pre or post-surgical radiotherapy

Chemo therapy: cisplatin and 5-fluorouracil are frequently used.

Extra topics that have been asked in exams:

Features of ama/acute stage of pratishyaya

Vridhdha sushruta:

- Aruchi
- Pida
- Jwara
- Virusata
- Sirogaurava
- Nasasrava
- Kshavathu

Madhava:

- Sirogaurava
- Nasasrava
- Sthivana (spitting)
- Aruchi
- Swarabheda

Features of pakva / subacute stage of pratishyaya

Vridhdha sushruta:

Subside of ama pinas features

Lightness of head, nose & face

Nasal discharge becomes dense

Madhava:

Ama lakshana subsides

Slimy, dense nasal secretion

Clarity of voice

Chikitsa of ama pratishyaya:

Dhumrapana with Dhumavarti prepared with saktu processed with ghrita.

Sudation with kanji like sour items

Ward food items with sour ingredients

Drink milk mixed with ginger

Sugarcane juice processed with ginger

Use of guda, maricha, dadhi etc.

Yusha of mulaka, kulathi

Chikitsa of pakva pratishyaya:

Tikshana shirovirechana & avapeedana nasya with apamarga bija, vidanga, pippali etc.

Nasya with Pathadi taila, bhrangiyadi taila

Head is kept wrapped with warm & heavy cloths.

Ruksha bhojana prepared from barley & haritaki should be par taken.

What is pooyashonita?

Due to tridosha vitiation or due to injury to forehead pus and blood discharges from nose along with burning sensation and headache.

This condition is called 'pooyashonita' / 'pooyarakta'.

Cardinal symptoms of nasa shosha:

Difficulty in breathing & exhalation

Thorny feeling in nose due to dried & stuffed kapha.

MUKHA ROGA

1. Detailed study of Rachana and Kriyasharir of Mukha Rogaadhisthana-oshtha, dantamoola, danta, jihva, talu, gal, sarvasara (Oral cavity) as per Ayurvedic and modern view along with their Basic examination including instruments/equipments required for the examination

औष्ठौ च दन्तमूलानि दन्ता जिह्वा च तालु च ।

गलो मुखादि सकलं सप्ताङ्गं मुखमुच्यते ॥

Yogaratanakara – 2 oshtha, danta, jihva, talu, and kantha are collectively called as ‘mukha’.

1. **Oshtha (lips):** pratyanga, 2 in number 1. Urdhwa 2. Adho, has 2 peshi.
2. **Ganda (cheeks):** vagbhata: 4 peshi, 2 sandhi; sushruta: 2 bones
3. **Talu:** 1 asthi, 2 peshi, one of pratyanga, udakavaha srotas moola
4. **Gala / kantha:**

One of 10 pranayatana & marma

1 peshi (constrictor muscles)

3 sandhi (connection between all three constrictor muscles)

5. **Jihwa:** one of the seven parts of mukha

रसनेन्द्रिय अधिष्ठान

इन्द्रिय द्रव्य : जल

Sushruta: 1 peshi

Origin of jihwa: kapha dosha, rakta, mamsa dhatu

Important part:

1. Sevani (frenulum) while surgery – avedhya part
2. उरः प्रदेश अवेध्य शिरा in jihva
 - 2 – rasavaha help in taste perception
 - 2 – vakavaha help in speech
3. Marma: shrungata marma (sadhyapranahara)

6. **Danta:** danta sampata:

तथाऽष्टमे मासि सर्वगुणसंपन्ना भवन्ति ।

पूर्णता समता घनता शुक्लता स्निग्धता

श्लक्ष्णता निर्मलता निरामयता

किञ्चिदुत्तरोन्नतता, दन्तबन्धनानां च समता

रक्तता स्निग्धता बृहद् घनस्थिरमूलता चेति

दन्तसम्पदुच्यते ॥ (K. S. Su. 20/8)

Anatomy of oral cavity:

The oral cavity extends from lips to the oropharyngeal isthmus and is divided into two parts by the teeth as 1. Vestibule of mouth 2. Mouth cavity proper.

There are many structures in the oral cavity namely lips, buccal or cheek mucosa, gums, teeth, retromolar, trigon, hard palate, oral tongue and floor of mouth.

Lips:

They are the fleshy folds of orbicularis oris muscle externally covered by skin and by skin and internally by mucous membrane.

The meeting points of both the lips laterally is called an angle of mouth.

The red marking of the lips is due to non-keratinised epithelium of transitional zone between skin and mucous membrane.

There are numerous labial glands which are serous, mucous and salivary in nature.

Gum / gingiva:

The tense fibrous tissue surrounding the neck of teeth and attached to the alveolar margins of maxilla and mandible is called as 'gum'.

This fibrous tissue is continuous with the periodontal membrane which fixes the teeth to their sockets.

Normal and healthy gingiva is pink in colour but it may vary depending upon the amount of melanin pigment.

Each gum has three parts –

1. Interdental gingiva which is the part of gingiva which extends in between two teeth
2. Marginal gingiva surrounded the neck of the tooth like a collar
3. Attached part is firmly fixed to the alveolar arch of the jaw.

Examination: with good light source and tongue retractor / cheek retractor

Teeth:

The main function of the teeth is mastication and each tooth is divided into following parts.

1. Crown: top portion of the tooth covered by enamel.
 - a. Clinical crown: portion of the tooth that is visible in mouth
 - b. Anatomical crown: total portion of the crown that is covered by the enamel.
2. Root: is embedded within the alveolar socket of the jaw.
3. Neck: is the junctional portion of crown and the root.

There are two sets of human teeth viz.

1. Primary (deciduous) teeth:

Consist of 20 teeth 2102/2102

Begin to form during the first trimester of pregnancy

Typically begin erupting around 6 months.

Most children have a complete primary dentition by 3 years of age.

2. Secondary (permanent) teeth:

Consist of 32 teeth in most cases 2123 / 2123.

Begin to erupt around 6 years of age.

Most permanent teeth have erupted by age 12, third molars are the exception; often do not appear until late teens or early 20 years

Structure of tooth:

1. Enamel: the hard tissue that covers the crown portion of the tooth.
2. Dentin: the material forming the main inner portion of the tooth structure. It is extremely sensitive to cold, heat, acid and drilling.
3. Pulp cavity: the vital tissues of the tooth consisting of nerves, blood vessels and connective tissue. 1. Pulp chamber 2. Pulp canal
4. Cementum: it is an outer covering of root which covers the dentine in the root of the tooth. It also has no vascular supply.
5. Periodontal ligament: dense connective tissue organized into fiber groups that connects the cementum covering of the root of the tooth with the alveolar bone of the socket wall.

Nerve supply:

1. Upper teeth: posterior superior alveolar
Middle superior alveolar
Anterior superior alveolar nerve
2. Lower teeth: inferior alveolar nerve

Blood supply:

1. Maxillary teeth: anterior, middle & posterior branch of superior alveolar artery branch of maxillary artery.
2. Mandibular teeth: inferior alveolar artery branch of maxillary artery

Morphologically:

Classification of teeth:

1. Incisor (central & lateral): function as cutting or shearing instruments for food.
2. Canines (cuspids): longest roots of all teeth
3. Premolars (bicuspid): act like canines in the tearing of food & are similar to molars in the grinding of food.
4. Molars: located nearest the temporomandibular joint.

Ayurveda:

1. Raja danta (central incisor)
2. Bastha danta (lateral incisor)
3. Danstradanta (canine)
4. Surudha danta (premolar)
5. Hanavya danta (molar)

Tongue:

Portion of the tongue is oral and partly pharyngeal.

Tongue is connected to various adjoining structures like mandible, hyoid bone, soft palate and pharyngeal wall by its musculature.

It has got a pharyngeal root, a superior or dorsal surface and an inferior or ventral surface. Roughly the oral and the pharyngeal part are separated by a 'v' shaped structure called as 'sulcus terminalis'.

Two sides of this sulcus terminalis meet in a midline to form a groove called as 'foramen caecum'.

Oral part of the tongue has got a tip / apex which touches the incisors teeth anteriorly.

The superior surface / dorsum contours with the hard palate in a closed mouth. Dorsal surface of the tongue is rough & papillated.

Inferior surface / ventrum contours with the hard palate in a closed mouth. Ventral surface of the tongue is in the pharynx and lies posterior to palatoglossal arches. Most important structure on this part is lingual tonsils and the surface is devoid of papillae.

Important papilla on the tongue surface is:

1. Fungiform papillae: on lingual margin
2. Filiform papillae: most common & most abundant almost all of the oral part of the tongue. They are conical & cylindrical in shape increases force between tongue surface & bolus to initiate a gustatory response.
3. Foliate papillae: has got multiple taste buds
4. Vallate papillae: located immediately in front of sulcus terminalis and cylindrical in shape.

Nerve supply:

Sensory: anteriorly 2/3 by lingual nerve

Posteriorly 1/3 by innervated by glossopharyngeal nerve

Motor: 7th (hypoglossal) cranial nerve

Muscles of tongue:

1. Extrinsic muscles: these muscles connect the tongue to the adjoining structures:
 - a. Hyoglossus
 - b. Styloglossus
 - c. Palatoglossus
 - d. Genioglossus
2. Intrinsic muscles: to form the mass of the tongue:
 - a. Superior longitudinal muscle
 - b. Inferior longitudinal muscle
 - c. Transverse muscle
 - d. Vertical muscle

Palate:

The hard & soft palate forms the roof of the mouth.

The palatine process of maxilla and horizontal plate of the palatine bone form the hard palate.

It is lined by keratinized, stratified squamous epithelium which contains numerous mucous secreting palatine glands in the posterior half.

A median elevation of mucoperiosteum called as 'median rephae' is seen anteriorly. There are several transverse folds which extends bilaterally from the rephae giving a corrugated appearance.

Principal artery: greater palatine branch of maxillary artery

Nerve supply: anterior hard palate: naso palatine nerve

Posterior hard palate: anterior & posterior palatine nerve.

Soft palate:

It is a movable partition attached to the posterior border of the hard palate which extends into the pharynx with a conical mass, the uvula which hangs down centrally.

The palatoglossal & the palatopharyngeal arch is a fold of mucous membrane which extends down laterally, merging with tongue and lateral wall of pharynx respectively.

Palatine tonsil is situated in between these two arches.

Muscles of soft palate: tensor palati, levator palati, palatoglossus, palatopharyngeus, uvular muscle

Pharynx:

The pharynx is wide muscular tube situated behind the nose, oral cavity and larynx and is a common pathway for digestive and respiratory tract.

Pharynx is continued inferiorly with the esophagus.

Pharynx extended from skull base to cervical 6th vertebra and has got length of about 12 cms.

Its upper part is widest, middle part is narrow and the lower end is the narrowest part of the lower end is the narrowest part of the gastrointestinal tract.

Human pharynx is conventionally divided into three sections:

1. Nasopharynx / epipharynx / postnatal space
2. Oropharynx / mesopharynx
3. Laryngopharynx / hypopharynx

1. Nasopharynx:

It extends from base of skull to soft palate & lies behind the nasal cavity anteriorly it communicates with the nasal cavity through posterior nares.

Posteriorly the atlas and axis vertebrae, covered by prevertebral fascia.

The roof is formed by the basi-sphenoid and basi-occiput.

The floor is formed anteriorly by soft palate with a deficient space posteriorly called as 'nasopharyngeal isthmus' through which nasopharynx communicates with oro-pharynx.

Nasopharyngeal tonsils / adenoids: it is a collection of lymphoid tissue with vertical ridges the subepithelial layer at the junction of roof and posterior wall of nasopharynx.

It increases in size upto 8 – 10 year and then atrophies.

Function of nasopharynx:

Warmed & humidified air in the nose is carried and passed on to larynx and trachea by nasopharynx.

Through eustachian tube, it equalizes the air pressure on both sides of the tympanic membrane.

It acts as a resonating chamber during voice production.

Nasal & nasopharyngeal secretions are drain by nasopharynx.

2. Oropharynx:

It extends from soft palate above to the tip of epiglottis or plane of hyoid bone below.

Anteriorly it communicates with oral cavity through oropharyngeal isthmus which is bounded by soft palate above, palatoglossal arches & lingual tonsils on the sides and dorsal surface of tongue below.

Posterior wall is related to retropharyngeal space covered by prevertebral fascia and muscle.

It lies opposite the second & upper part of third cervical vertebrae.

Functions of oropharynx:

It acts as passage for air & food.

It helps in deglutition.

It helps in taste sensation

Local, defensive force against harmful intruders.

3. Laryngopharynx:

It is the inferior most part of the pharynx.

It lies inferior to the epiglottis and extend to the location where it merges either into larynx or esophagus.

Roughly to the area located between the 4th & 6th cervical

Majority of the laryngopharynx lies behind the larynx

One of the more important structures in the hypopharynx is called as 'pyriform fossa', a common site of post laryngeal carcinoma

Pyriform fossa is again divided into upper and lower segment by the level of hyoid bone itself.

Functions of laryngopharynx:

Common pathway for air & food

Vocal tract for resonance for certain speech sounds

Helps in deglutition

Structure of pharynx:

It consists of following four layers from within outwards.

1. Mucosa: in nasopharynx the epithelium is respiratory epithelium, oropharynx & hypopharynx are lined by non-keratinized squamous epithelium
2. Pharyngobasilar fascia: lies between mucosa and the muscular layer of the pharynx, attaches superiorly occipital and petrous part of the temporal bone and descends downwards as a median raphe and given attachment to constrictor pharyngeal muscles.

3. Muscular layer: this wall is formed by three constrictor muscles mainly superior, middle and inferior constrictor. They overlap each other and almost completely encircle the pharynx from above downwards.
4. Buccopharyngeal fascia: weak fibrous tissue layer attached posteriorly to prevertebral fascia transverses pharyngeal nerves, veins & arteries.

Waldeyer's ring:

Lymphoid tissue, scattered throughout the pharynx in the subepithelial layer. Becomes aggravated at various places and it is called as 'waldeyer's ring': it consists of –

- | | |
|--------------------------------------|-----------------------|
| 1. Nasopharyngeal tonsils / adenoids | 4. Pharyngeal nodules |
| 2. Tubal tonsil | 5. Palatine tonsils |
| 3. Lateral pharyngeal nodules | 6. Lingual tonsils |

The lymphoid tissue which is smaller at birth gradually increases upto the age of 12 years and then recedes and becomes steady after 20 years of age. It has got a protective function.

Blood supply:

Ascending pharyngeal branch of external carotid artery

Ascending palatine and tonsillar branches of facial artery.

Dorsal lingual branch of lingual artery

Descending palatine branch of maxillary artery.

Venous drainage:

Veins drain into the pharyngeal venous plexus, which drains into the internal jugular vein and facial veins.

Lymphatic drainage:

Lymph drains into retropharyngeal and deep cervical lymph nodes.

Nerve supply:

It is supplied by tonsillar branch of glossopharyngeal nerve and lesser palatine nerve.

Larynx:

It is an organ for respiration and voice box.

It is situated in the middle of anterior part of neck, opposite 3rd to 6th cervical vertebrae.

It becomes continuous with trachea at level of 6th cervical vertebrae.

Laryngeal cartilages:

Larynx contains 9 cartilages of which 3 are unpaired and 3 paired

Unpaired: cricoid, epiglottis and thyroid

Paired: arytenoid, cuneiform and corniculate

1. Thyroid cartilage:

It is largest cartilage of larynx which has two wings.

They join anteriorly forming an angle of 90° in males and 120° in females.

The vocal cords are attached to the middle of thyroid cartilage and most of the foreign bodies are arrested above the vocal cords.

The cartilage is vati-shaped in cross section. It consists right and left lamina which meet in the midline to form 'thyroid prominence' also called as 'Adam's apple'.

2. Cricoid cartilage:

It is only cartilage forming a complete ring like signet ring, with a broad lamina posteriorly and a narrow arch anteriorly.

3. Epiglottis:

It is a leaf like yellow, fibroelastic cartilage which is broad above and narrow below and projects behind the base of tongue

It guards the inlet of larynx

Its anterior surface is attached to the body of hyoid bone by hyoepiglottis ligament.

The anterior surface of epiglottis is separated from thyrohyoid membrane and thyroid cartilage by a potential space called as 'pre-epiglottic space' which is filled with fat.

This space can be invaded on carcinoma of supraglottic larynx or the base of tongue.

4. Arytenoid cartilages:

They are the paired cartilages which has an apex, a base and two processes mainly vocal and muscular.

The apex supports the corniculate cartilage.

The base forms a shallow ball and socket synovial joint with the upper borders of cricoid cartilage.

Vocal process, directed anteriorly, gives attachments to vocal cords.

Muscular process, directed laterally gives attachments to intrinsic laryngeal muscles.

5. Corniculate cartilage:

These are the paired cartilages which articulate with the apex of arytenoid cartilage.

6. Cuneiform cartilage:

Club shape, rod like cartilages situated in the ary-epiglottic fold in front of corniculate cartilage and provide passive support to the fold.

Thyroid, cricoid, and arytenoid cartilages are fibroelastic in nature.

Hyaline cartilages can undergo ossification.

Inferior of the laryngeal cavity:

It extends from the inlet of the larynx to the commencement of the trachea.

This laryngeal cavity is divided into three compartments by vestibular folds (superior) and vocal folds (inferior).

These three compartments are:

1. Supraglottic segment: superior to the vestibular folds
2. Ventricle: space enclosed between vestibular folds
3. Infraglottic segment: part of the laryngeal cavity inferior to the vocal cords.

Space between the vestibular fold is known as 'Rima vestibuli' and the space between the vocal cords is called as 'Rima glottidis'.

Membranes in the larynx:

- Quadrangular membrane
- Cricovocal membrane
- Thyrohyoid membrane
- Cricothyroid membrane

Important muscles of the larynx:

1. Extrinsic muscles: which connect laryngeal cavity with neighbouring structures.
 - a. Infrahyoid muscles: thyrohyoid, sternothyroid, stenothyroid, omohyoid
 - b. Suprahyoid muscles: stylohyoid, mylohyoid, geniohyoid, stylopharyngeus, palatopharyngeus
2. Intrinsic muscles: aryepiglottic, oblique arytenoid, transverse arytenoid, posterior cricoarytenoid, aryepiglottic, thyroepiglottic, vocalis

Vascular anatomy / blood supply:

Laryngeal branches of superior thyroid artery & inferior thyroid artery

Cricothyroid branch of superior thyroid artery

Veins usually accompany the arteries

Nerve supply:

Sensory: above vocal cords: internal branch of superior laryngeal nerve

Below vocal cords: recurrent laryngeal nerve

Motor: recurrent laryngeal nerve

Secretomotor: internal branch of superior laryngeal nerve.

Laryngeal and post laryngeal examination warrant one or more of following tools:

1. Rigid telescope (90° or 70°): with video camera / monitor attachment – imparts clear, superior, and wide view of the laryngeal structures. It can be easily performed in OPD with the aid of anaesthetic spray.
2. Flexible nasopharyngo laryngoscope: more patient frequently, provides superior subglottic view and more amenable for long duration examination. True and false vocal cords, epiglottis, arytenoid cartilages, post laryngeal space, pyriform fossa and infraglottic space are well visible in this mode of examination.

3. Indirect mirror laryngoscopy:

Provides good 3D laryngeal view but cannot be done in uncooperative patients, children and overhanging epiglottis.

Local anaesthetic spray will suffice the examination.

Movement of the vocal cords are carefully observed by asking the patient to phonate 'aa' and 'ee' to evaluate proper adduction of cords.

The abduction can be appreciated by asking the patient to breathe deeply, comparison of the both cords in movements is also noticed.

4. Stroboscopy / strobe examination:

Study of the vocal cord movement in extremely slow motions.

This is extremely valuable in professional voice. Carcinoma in situ and mucosal wave pathologies but the instrument is rather costly to be procured in every setup.

5. Barium meal swallow:

It is another very important tool for the estimation of hypo pharyngeal and post laryngeal maladies.

6. Direct laryngoscopy:

Direct laryngoscopy uses a tube called a laryngoscope. The instrument is placed in the back of throat. The tube may be flexible or stiff. This procedure allows the doctor to see deeper in the throat and to remove a foreign object or sample tissue for a biopsy.

2. Mukha and Danta Swasthya as per ancient and modern concepts including prevention of malignancy of oral cavity.

Acharyas have described here and there some activities for oral health such as:

1. Dantapavan
2. Jihva nirlekhana
3. Pratisarana
4. Kavala
5. Gandusha
6. Use of fragrant substances like javitri, kankol etc. in mouth.

Dantadhavana:

A man should leave his bed early in the morning and brush his teeth.

The toothbrush should be made of a fresh twig of a tree or a plant grown on a commendable tract and it should be straight not worm-eaten, devoid of any knot or at most with one knot only, and should be twelve fingers in length and like the small finger in girth.

The potency and taste of the twig should be determined by or vary according to the season of the year and the preponderance of any particular dosha in the physical temperament of its user. The twig of a plant possessed of any of four tastes as sweet, bitter, astringent and pungent should be alone collected & used.

Nimba is the best of all the bitter trees; khadira of the astringent ones; madhuka of the sweet; and karanja of the pungent ones.

Danta shodhana churna:

The teeth should be daily cleansed with a compound consisting of honey, powdered trikatu, Trivarga, tejovati, saindhava and oil.

Each tooth should be separately cleansed with the preceding cleansing paste applied on the top of the twig bitten into the form of a soft brush, and care should be taken not to hurt the gum anyway during the brushing

Benefits of dantadhavana:

This tends to cleanse and remove the bad smell from the mouth and the uncleanness of the teeth as well as subdue the kapha of the body.

It cleanses the mouth and also produces a good relish for food and a cheerfulness of mind.

Dantadhavana ayogya:

Tooth brushing is forbidden to the persons suffering from affections of the teeth, lips, throat, palate, for tongue, or from stomatitis, cough, asthma, hiccough and vomiting, weakness, indigestion, epilepsy, head disease, thirst, fatigue, alcoholism, facial paralysis, ear ache and to persons tired with over drinking.

Jihvanirlekhana:

The use of thin smooth and flexible foil of gold, silver, or wood, ten finger is length, is commended for the purpose of cleansing the tongue by scraping.

It gives relief and removes the bad taste, fetor, swelling and numbness of the mouth.

Use of fragrant dravya:

Taking tambula with karpura, jayphala, soft sugar, lavanga, latakasturi, chuna and poog is beneficial

By consuming it, cleanliness in the mouth, fragrance, kanti & beauty comes.

Hanu, danta, jihva and indriyas are purified.

The heart gets strength and throat diseases are destroyed

Consuming this tambula after waking up from sleep and after eating, bathing and vomiting is especially useful.

Tambula ayogya:

Use of tambula is contraindicated in ruksha, durbala & patient of raktapitta, ksharakshina, trishna, murcha and mukhashosha.

Kavala – gandusha:

Types of kavala:

1. Snehana
2. Prasadana
3. Shodhana
4. Ropana

Types of gandusha:

1. Snehana
2. Shamana
3. Shodhana
4. Ropana

Use of kavala & gandusha according to dosha:

In vata prakopa snaihika & ushna snaihika kavala

In pitta prakopa katu, amla, lavana, ruksha and ushna shodhana kavala

In vrana ropana kashaya, tikta, madhura, katu and ushna kavala.

Snaihika gandusha with madhura, amla & lavana sneha.

Samana gandusha with kashaya & madhura drugs

Shodhana gandusha with tikta, amla, lavana & ushna drugs

Ropana gandusha with kashaya & tikta drugs

Dharana kala, avadhi & vidhi:

First of all, by making the patient sit in windless place, his head, shoulder, neck & throat should be sudation.

Then gandusha should be kept in the mouth without drinking.

Gandusha and kavala stored in mouth by keeping the body straight with a concentrated mind until the throat is full of kapha dosha and the nostrils and eyes are not filled with tears.

After taking out kaval from the mouth, another kavala should be stored.

It is suitable to kept gandusha three, five, seven times or until destroy of doshas.

Samyaka lakshana of kavala:

Free of disease, contentment, purity, lightness of mouth and pleasantness of indriyas are samyaka lakshana of kavala.

Hinayoga / atiyoga of kavala & gandusha:

Due to hinayoga stiffness, aggravation of kapha, loss of taste sensation and anorexia.

Due to atiyoga stomatitis, dryness, thirst, anorexia and exhaustion.

Gandusha:

असंचार्या तु या मात्रा गण्डूषः स प्रकीर्तितः ।

Mouth is completely filled with gandusha dravya and kept without movement is called gandusha.

Kavala:

सुखं संचार्यते या तु मात्रा स कवलः स्मृतः ॥ (Su. Chi. 40 / 62)

The dravya used moves easily in mouth called as kavala.

3. Number and general aetiology, pathology, cardinal features of Mukha rogas along with their common line of management/treatment.

Mukha roga sankhya:

Charaka: 4

Sushruta: 65

A.H. & A.S.: 75

Madhava nidana: 65

Charaka: galaganda, galagraha, rohini, shaluka

Sushruta:

Osthagata: 8

- | | | |
|------------|----------------|----------------|
| 1. Vataja | 4. Sannipataja | 7. Meda |
| 2. Pittaja | 5. Raktaja | 8. Abhighataja |
| 3. Kaphaja | 6. Mamsa | |

Dantamoolagata: 15

- | | |
|--------------------|---------------------------|
| 1. Sheetad | 9. Vadhana |
| 2. Dantapuputaka | 10. Adhimamsa |
| 3. Dantaveshtaka | 11. Vataja dantanadi |
| 4. Shaushira | 12. Pittaja dantanadi |
| 5. Mahashaushira | 13. Kaphaja dantanadi |
| 6. Paridara | 14. Sannipataja dantanadi |
| 7. Upakusha | 15. Agantuja dantanadi |
| 8. Danta vaidarbha | |

Dantagata: 8

- | | |
|-----------------|-------------------|
| 1. Dalana | 5. Sharkara |
| 2. Krimidanta | 6. Kapalika |
| 3. Danta harsha | 7. Shyava dantaka |
| 4. Bhanjanaka | 8. Hanumoksha |

Talugata roga: 9

- | | | |
|-----------------|-------------------|-----------------|
| 1. Galashundika | 4. Mamsakachchapa | 7. Talu pupputa |
| 2. Tundikeri | 5. Arbuda | 8. Talu shosha |
| 3. Adhrusha | 6. Mamsa sanghata | 9. Talu paka |

Jihvagata roga: 5

- | | |
|--------------------|---------------|
| 1. Vataja kantaka | 4. Alas |
| 2. Pittaja kantaka | 5. Upajihvika |
| 3. Kaphaja kantaka | |

Sarvasara roga: 3

1. Vataja mukhapaka
2. Pittaja mukhapaka
3. Kaphaja mukhapaka

Kanthagata roga: 17

- | | | |
|-----------------------|-----------------|------------------|
| 1. Vataja rohini | 7. Adhijihwa | 12. Gilayu |
| 2. Pittaja rohini | 8. Valaya | 13. Galavidradhi |
| 3. Kaphaja rohini | 9. Balasha | 14. Swaraghna |
| 4. Sannipataja rohini | 10. Ekavrunda / | 15. Galaugha |
| 5. Raktaja rohini | vrunda | 16. Mamsatana |
| 6. Kantha shaluka | 11. Shataghni | 17. Vidari |

Samanya hetu & samprapti:

A.H.:

Excessive use of meat of fish, buffalo, green radish, masha, dugdha, sugarcane juice, phanita etc.

Sleep with head low position

Due to not following dantadhavana, dhumapana, vamaana, gandusha

Not follow siravedhana

Due to all of these, vitiate kapha dosha in mouth and produces mukha roga.

Charaka:

1. Vataja Mukharoga:

Shosha in mukha, karkashta, ruksha, chala, vedana and face became blackish & reddish.

Cold discharge from mouth, fallen of teeth, tremors and pain in mouth.

2. Pittaja Mukharoga:

Trishna, jvara, visphota, burning sensation in palate, feeling of smoking from mouth, fissure in lips & palate, murcha and pain of various types

Face becomes bluish, blackish etc.

3. Kaphaja Mukharoga:

Itching, heaviness, whitish appearance, sliminess, unctuousness, anorexia, stiffness, discharge of kapha, Agnimandya, tandra, light pain etc.

4. Sannipataja Mukharoga:

All the features of vata, pitta, kapha

Samanya chikitsa:

Mukharoga, dantamoolagata roga, kantha & oshthagata roga are predominantly caused due to vitiation of kapha & rakta hence raktamokshana should be performed.

Siravedha is performed at tongue, lips, chin and palate

Swedana, virechana, shirovirechana, vamana, nasya, dhumapana, raktamokshana along with Pratisarana, gandusha, kavala, Shastrakarma and agnikarma etc. accepted in accordance to dosha predominance.

Katu & tikta ingredient are used for kavala.

Kavala dharana with mutra, taila, madhu & dugdha in mukhapaka.

Extra topics that have been asked in exams:

Write the name of any 2 instruments used of examination of teeth

- | | |
|-----------------------------|-------------------|
| • Spoon excavator | • Condenser |
| • Treasure | • Diamond carver |
| • Dental mirror | • Amalgam carrier |
| • Probe | • Bone cutter |
| • Cement mixing spatula | • Compressor |
| • Cement carrier instrument | • Bone file |

Explain the use of tongue depressor:

Tongue depressors hold down patient's tongue to allow a clear view of the throat, teeth and back of mouth during examination

They can also be used as finger splints and as spatulas for mixing and applying medications.

What is leucoplakia?

Thickened white patches from on the gums, the inside of the cheeks, the bottom of the mouth and sometimes, the tongue

The patches can't be scraped off

Due to tobacco use, including smoking and chewing

Regular users of smokeless tobacco products eventually develop where they hold the tobacco against their cheeks

Write the location and number of vocal cords

Vocal cords project the lateral wall of the laryngeal cavity towards the midline.

Vocal cords are 2 bands of muscle inside larynx.

OSHTHA ROGA

1. Detailed study of Etiology, pathology, classification, clinical features and management of - Oshtha prakopa, khand oshtha

1. Vataja oshtharoga:

Rupa:

In vataja oshtha prakopa both lips are dry, rough, hard, rigid, blackish, severely painful, cracked and fissured.

Chikitsa:

Abhyanga with madhuchshita (bee wax) + mahasneha

Nadisweda

Upanaha sweda with salvana churna

Nasya with vatahara dravya taila

Pratisarana with powders of shriveshtaka, Sarjarasa, guggulu, and yashtimadhu

A.H.:

Pichu dharana with Sarjarasa, bee wax, guggulu, devadaru

Pratisarana with mahasneha + yashtimadhu churna

Nadisweda with leaves of eranda + dugdha

Nasya, Shiroabhyanga

Yogaratanakara:

Baladi taila / ghrita lepa

2. Pittaja oshtha roga:

Rupa:

Both lips are studded with bluish, yellowish, mustard like eruptions associated with severe burning sensations.

Eruption is full of fluid and quickly proceed to suppuration and discharge.

Lips are highly sensitive to pungent, hot, salty and spicy food items

Sadhya

Chikitsa:

Management similar to pittaja vidradhi

Jalaukavacharana, siravedha

Sheeta sechana, sheeta lepa etc. should be employed

Pratisarana with paste of lodhra, Sarjarasa, honey and yastimadhu

Abhyanga with ghrita processed with guduchi, yashtimadhu & chandana

3. Kaphaja oshtharoga: (angioneurotic oedema):

Rupa:

Skin coloured vesicles associated with itching, swelling, heaviness, are seen on both lips.

Lips are cold and slimy to touch with intolerance to cold items

Sadhya

Chikitsa:

Raktamokshana performed either with jalaukavacharana or with leaves of shana tree

Then shirovirechana nasya, dhooma, sveda and kavala executed with kapha mitigating drugs.

Pratisarana with trikatu, Sarjarasa, yavakshara, veeda lavana mixed with honey.

4. Sannipatika oshtha roga:

Rupa:

Presents different sized black, yellow, or white coloured vesicles associated with foul smelling and slimy secretions from lips.

The eruptions become swollen, lustrous and painful all of a sudden, without any reason, with 'vishamapaka' i.e., some portion suppurates while other does not.

Asadhya

Chikitsa:

Tridoshanasaka chikitsa

Any acharya have not described treatment

5. Raktaja oshtha roga / oshtha arbuda (haematoma / granulomatous lip):

Rupa:

Sushruta:

Vesicles of the colour of kharjura (date) fruit

Lips appear shining like blood

Associated with bleeding

A.H.:

A tumour resembling kharjura phala get generated because of blood loss

Asadhya

Chikitsa:

Management similar to pittaja vidradhi

Jalaukavacharana, siravedha

Sheeta sechana, sheeta lepa etc. should be employed.

Pratisarana with paste of lodhra, Sarjarasa, honey & yashtimadhu

Abhyanga with ghrita processed with guduchi, yashtimadhu & chandana.

6. Mamsaja oshtha prakopa: (ulcerative squamous cell carcinoma of the lip):

Rupa:

Lips become heavy, thick due to elevated muscular lump generated due to vitiated mamsa

Later on, maggots develop at the angles of mouth

Dosha: kapha develop other dosha

Dushya: mamsa

Asadhya

Chikitsa:

No one described

If vrana present, vranavata chikitsa

Pratisarana

7. Medoja oshtha prakopa: (lipoma / lip mucocoele)

Rupa:

Lips become soft, fixed, swelling appearing as if smeared with ghrita manda or oil.

Lips associated with itching and crystal-clear discharge

Dosha: kapha predominant other dosha

Dushya: meda

Sadhya

Chikitsa:

Sushruta:

Swedana is indicated (snehana is contraindicated)

Swedana is followed by shastra karma

Vrana shodhana

Priyangu, triphala and lodhra powder mixed with honey should be used for Pratisarana

A.H.:

Agnikarma should be followed after cleaning the wound.

Khandoshtah (cleft lip):

Division of lip in two parts due to vata vitiation (mostly in intrauterine life) is called 'khand oshtha' as stated by astanga hridaya and sharangadhara-samhita.

Sushruta did not mention it as a separate disease.

Dosha: vata

Shastra karma sadhya

Chikitsa:

After oleation and sudation therapied, both the edges of the divided lip are evenly scrapped and are sutured from inside with a thread of flax/linen. Wound is smeared with shatdhauta ghrita, a kavalika is kept and bandaged in case of suppuration, it should be managed similar to infected ulcer.

Abhyanga – it should be executed with oil prepared with yashtimadhu, Jyotishmati, rodhra, Shrivani, sariva, utpala, patola, kakamachi. It has cleansing and healing properties.

Nasya – it should be performed with oil processed with drugs mitigating vata and of madhura group.

2. Brief Knowledge of Gandalaji, Jalarbuda, Kshataja Oshthaprakopa

Gandalaji (acute parotitis):

Gandalaji is the only disease occurring in ganda.

An immobile swelling developing in cheek (on inner side) and accomplished burning sensation, fever and pain is called as 'gandalaji'.

Chikitsa:

Gandalaji should be treated as per its stages

Amavastha: management similar to vranashopha should be employed.

Pachyamanavashta: upanaha is applied

Pakva avastha: line of treatment is incision followed by cleansing and healing therapies.

Jalarbuda (mucocoele):

Due to vitiation of vata and kapha the water bubble like edema is developed on lip, which is called 'jalarbuda'.

Dosha: vata-kapha

Shashtra sadhya

Chikitsa:

Jalarbuda should be incised and shodhana is performed

Pratisarana with trikatu powder mixed with honey is applied after cleansing

Ksharakarma or agnikarma is indicated if the wound is too deep or growth is ample.

Abhyanga is executed for healing of deep wound.

Abhigataja / Kshataja oshtha roga (trauma of lip):

Rupa:

Chronic / repeated trauma to lip causes cracks followed by fissures with knotty swelling and itching.

Lips appears blood red in colour with pain and secretions and the condition is called 'abhigataja / Kshataja oshtha roga'.

Dosha: vata associated kapha and rakta

Sadhya

Chikitsa:

After oleation and sudation therapies, both the edges of the lips are evenly scrapped and are sutured from inside with a thread

Wound is smeared with shatdhauta ghrita, a kavalika is kept and bandaged.

Abhyanga is done with oil processed with mulethi, Jyotishmati, rodhra, Shravani, sariva, utpala, patola, kakamachi
Nasya performed with drugs mitigating vata & of madhura gana.

3. Knowledge of cleft lip.

Definition:

There is a wedge-shaped defect caused due to failure of two parts of lips to fuse into a single structure.

There is a unilateral or bilateral opening in the upper lip between the mouth and the nose.

It is a developmental defect by birth.

Cleft formation:

A cleft lip occurs due to failure of epithelial bridge caused by lack of mesodermal tissue and proliferation from the maxillary and nasal processes.

In unilateral cleft lip the nose communicates freely with oral cavity.

In bilateral cleft lip the central portion of the alveolar arch is rotated anteriorly and superiorly

Classification:

1. Unilateral incomplete or complete
2. Bilateral incomplete or complete

Clinical features:

It is seen on left side in 70% of cases

Various disturbances in the dental structures like missing, deformed, displaced or divided and supernumerary teeth are seen.

Difficulty in sucking

Defective speech – particularly with the labial letters like B, F, M, P and V

Treatment:

Multidisciplinary approach in the management of cleft lip is necessary for complete rehabilitation of the patient.

Most of the time it is also associated with cleft palate.

1. Cheiloplasty: surgical closure of the lip should be done at proper time. The 'rule of tens' is used for deciding the optimal time of lip closure, i.e., a. 10 weeks of age b. 10 pounds of body weight c. 10 gm of Hb%
2. Palatoplasty, bone grafting, orthodontic therapy, cleft rhinoplasty speech therapy, psychotherapy and feeding plate are the other important measures to be adopted for complete rehabilitation.

Extra topics that have been asked in exams:

Write the names of asadhya oshtha roga as per sushruta.

Mamsaja, raktaja, sannipataja

DANTA MULA GATA ROGA (DISEASE OF PERIODONTIA)

1. Detailed study of Etiology, pathology, classification, clinical features and management of - Shitada, Dantaveshta, Upakush, Danta Nadi, Danta Vidradhi, Adhimansa

Dantamoolagata roga: 15

- | | |
|-------------------|---------------------------|
| 1. Shitada | 9. Vardhana |
| 2. Danta puputaka | 10. Adhimamsa |
| 3. Danta veshtaka | 11. Vataja dantanadi |
| 4. Shaushira | 12. Pittaja dantanadi |
| 5. Mahashausira | 13. Kaphaja dantanadi |
| 6. Paridara | 14. Sannipataja dantanadi |
| 7. Upakusha | 15. Agantuja dantanadi |
| 8. Dantavaidarbha | |

A.H. has not described dantaveshtaka, paridara, vardhana roga but described new dantavidradhi roga (13 diseases)

Sheetada: (periodontitis / chronic suppurative recessive gingivitis)

Rupa:

Sudden bleeding occurs without any reason from the blackish, soft, moistened, and necrosed gums with foul smell.

Gum start receding and the inflammatory process spread among gums on after other due to vitiated rakta.

This condition is known as 'sheetada'.

Dosha: kapha, rakta

Sadhya

Chikitsa:

Raktamokshana is advised

Then sodhana gandusha with decoction of shunthi, sarshapa, triphala, musta, rasanjana

Lepa – paste of priyangu, musta, triphala is used.

Nasya with oil processed by triphala, yashtimadhu, utpala and padmaka

A.H.:

Raktamokshana

Pratisarana with musta, arjuna twaka, triphala, priyangu, rasanjana, sunthi & madhu

Kavala with mustadi kwatha

Nasya with taila processed with madhura gana

Yogaratanakara:

- Vatanashaka taila and ghrita
- Sarva mukha roga hara ghrita

Dantaveshtaka:

Vagbhata has not described this disease.

Rupa:

Sushruta:

This disease presents pus discharge with bleeding from the gums and teeth become loose.

These diseases called 'dhataveshta' (commonly known as pyorrhoea)

Dosha: rakta

Sadhya

Chikitsa:

Sushruta:

Raktamokshana is performed

Pratisarana with lodhra, patanga, yashtimadhu, laksha churna, dhatura mixed with honey is applied vigorously on the wound.

Gandusha with latex tree like vata, udumbara mixed with honey, ghrita and sugar.

Nasya – ghrita processed with kakolyadi gana of drugs and milk ten times that of ghrita.

Raktapitta nashaka chikitsa

Shirovirechana, nasya karma, unctuous food should be served.

Bakula tree bark is given for chewing for mixing the loose tooth.

Upakusha:

Rupa:

Burning sensation and suppuration in gums.

Teeth become loose and move easily.

Bleeding occurs by rubbing the teeth together or pressing them

Dull pain

Gums get distended after cessation of bleeding

Mouth emits foul smell.

Dosha: pitta, rakta

Sadhya

Chikitsa:

Sodhana – all cleansing measures like vamana, virechana, shirovirechana should be employed

Raktavishravana is performed with leaves of kakodumbar, gojihva

Pratisarana performed with mixture of honey, Panchalavana, and trikatu.

Kavala with powders of pippali, sarshapa, shunthi, vetas phala churna are mixed with warm water.

Kavala with ghrita processed with madhura dravya.

Nasya karma

A.H.:

Swedana karma done with kept hot water in the mouth.

Lekhana karma with mandalagra or shaka patra

Kavala with ghrita manda or taila.

Nasya karma with taila processed with madhura dravya kalka or kwatha of jivantyadi dravya.

Dantanadi / periapical abscess / alveolar sinus sec to alveolar abscess:

Rupa:

When a patient suffering from curable diseases of gums ignores them, then the vitiated dosha / pus get more aggravated.

These dosha, being unable to get evacuated, accumulates inside and spread in surrounding tissues by creating minute channels, through which pus discharges frequently.

Thus, these dosha destroys surrounding bones, muscles and skin by puncturing them.

These minute channels are termed as nadi / sinuses and the disease is called 'dantanadi'.

Dantanadi is categorized into 5 types viz. vataja, pittaja, kaphaja, sannipatika and agantuja

Acharya sushruta describe nadi in visarpa nadi, stana roga in nidana sthana.

Tridoshaja nadi – asadhya

Other nadi – sadhya

Chikitsa:

General management similar to nadivrana

In this disease, tooth should be removed where the nadi vrana occurs.

But if it is in the upper row then it should not be removed

After that the gum should be cut with shastra and removed

After purifying vrana, kshara and agnikarma should be applied.

If the tooth is neglected, that is, if it is not extracted, nadivrana definitely reached hanuvasthi and piercing the bone. That's why broken and loose teeth should be pulled out from the root.

For shodhana of dantanadi jatyadi taila prepared with jati (Chameli), madanaphala, gokshura, khadira, lodhra, yashtimadhu, manjistha etc.

Vamana, virechana, shirovirechana, dhumapana etc. should be executed as cleansing measures.

Dhavana – the wound should be cleaned with decoction of jati, madanaphala, khadira and gokshura.

Agnikarma should apply after tooth extraction.

In zigzag, deeply seated or multiple sinuses, the sinus is first filled with jaggery, honey or beeswax (madhuchchhishta) then cauterised with shalaka.

Nasya with taila prepared with ksheerivriksha kalka or kwatha

Danta vidradhi (periapical abscess / periodontal abscess):

Acharya sushruta has not described this disease.

Rupa:

A big sized heavy swelling develops on both sides of gums and accompanied by pain and burning sensation.

If ruptures after suppuration, discharges pus and blood and the condition is called dantavidradhi.

It is supposed to undergo in two stages viz. ama and pakva avastha.

Dosha: tridosha & rakta

Charaka: kaphaja

Sadhya

Chikitsa:

Amavastha

Kavala with a warm decoction of drugs of katu, tikta, teekshna, ushna and kashaya properties mixed with cow's urine.

Lepa with katu, tikshana, ushna, ruksha dravya.

Pratisarana with paste of katuki, kushtha, meshashrunji, yavakshara on swelling

For preventing suppuration ingredients having ruksha and sheeta properties.

Pakva avastha:

Shastra karma – abscess if develops should be incised and drained followed by cauterisation if deeply seated.

Gandusha with decoction of triphala, tulsi and arishta

Nasya with ghritamanda processed with yashtimadhu.

Adhimansa (pericoronitis of wisdom teeth):

Rupa:

Sushruta:

A rigid severe inflammation develops behind the last tooth in mandible.

It is accompanied by intense pain and salivation

It is kaphaja roga

A.H. & A.S.:

A severe inflammation, resembling a nail (keel) develops behind the last tooth.

It is kaphaja roga

Intense pain in jaw and ears

Obstruction in deglutition.

Dosha: kapha

Sadhya

Chikitsa:

Sushruta:

Chedana – swollen gum is held either by badisha or muchundi yantra and excised with mandalagra.

Then Pratisarana with powers of teekshana ingredients like vacha, tejovati, patha, sarjikshara, yavakshara with honey.

Vrana Prakshalana is done with decoction of patola, nimba and triphala

Pippali churna with honey and water for kavala.

Shirovirechana nasya and vairechanika dhumapana should be performed.

Raktamokshana in subacute / recently generated adhimamsa

Kavala with patola, nimba & triphala.

2. Brief Knowledge of dantapupputaka, Saushira, Mahasaushira, Danta Vaidarbha, Paridara, Vardhana.

Dantapupputaka (periodontal abscess):

Rupa:

Sushruta:

Kaph, raktaja vyadhi

Severe pain associated with big swelling in 2 or 3 gums.

A.H.:

A big sized dense inflammatory swelling resembling a nut / seed of Badara fruit develops at 2 or gums.

It is associated with severe pain and gets suppured quickly.

Dosha: kapha, rakta

Sadhya

Chikitsa:

Sushruta:

In amavastha snehana, svedana followed by raktamokshana

Pratisarana, nasya and unctuous food should serve.

A.H.

Pakva avastha:

Abscess is incised and drained if not ruptured followed by excision or scrapping if needed.

Pratisarana with yashtimadhu, sarjikshara, sunthi and saindhava lavana

Shaushira (su.) / sushira (A.H.) (acute gingivitis):

Rupa:

A painful inflammatory edema gets precipitated near roots of teeth associated with excessive salivation and necrosis with suppuration of gingival flap.

Inflammation with itching.

Dosha: kapha, rakta (Su.)

Pitta, rakta (A.H.)

Sadhya

Chikitsa:

Raktamokshana should be executed.

Lepana with paste of lodhra, musta, rasanjana mixed with honey.

Gandusha with kshiri vruksha kwatha

Nasya with ghrita process with sariva, utpala, yashtimadhu, lodhra, agaru, chandana and milk, ten times that of ghrita is used for nasya.

Mahasaushirya / mahasushira (necrotising periodontitis):

Rupa:

A severe inflammatory oedema with burning sensation develops on gums followed by suppuration, loosening of teeth from their sockets.

Inflammation spreads to surrounding structures like gums, palate, lips, which get roughened and cracked

It is accompanied by blood stained purulent discharge, fever and pain in mouth

Dalhana / bhoja opine that the patient may die in a week if ignored.

Dosha: tridoshaja

Asadhya

None acharya described treatment.

Dantavaidarbha (Su.) / vidarbha (A.H.) (traumatic periodontitis):

Rupa:

A painful severe oedema develops on gums due to traumatic injury. There is loosening of teeth also and the condition is called 'dantavaidarbha'.

Abhighataja vyadhi

Dosha: vitiation of vata – pitta due to trauma

Sadhya

Chikitsa:

Sushruta:

Prachhana – gums are scrapped with mandalagra shastra

Ksharakarma

Sheetopachara

Gandusha is performed with ghrita manda

Pratisarana with paste of lodhra, patanga, manjistha, yashtimadhu

Navana nasya with kakoli, yashtimadhu & sarkara

Paridara (chronic gingivitis / generalised recessive gingivitis):

A.H. and A.S. has not described paridara.

Rupa:

In this disease the gums get necrosed and shed off.

In addition blood spitting is observed

Dosha: pitta, kapha, rakta

Sadhya

Treatment:

Sheetada vata chikitsa should follow.

Vardhana (Su.) / khallivardhana (Yr.) / adhidanta (A.H.) (extra dentition / hyperdontia / supernumerary teeth):

Rupa: eruption of an extra / supernumerary tooth accompanied by severe pain is called as vardhana.

Acharya vagbhata termed this disease as 'adhidanta' and put it into 'dantagata roga'.

Chikitsa:

Dantanirharana – a coating of kshara is given around the extra tooth so that it becomes loose and then extracted like a krimi danta.

It should be followed by agnikarma / thermal cautery to control the bleeding.

Krimidanta samana chikitsa.

3. Detailed study of Etiology, pathology, classification, clinical features and management of Gingivitis, Apical abscess, Periodontitis (Pyorrhoea).

Gingivitis:

Gingivitis is a form of gum disease characterised by reversible gingival inflammation without destruction of tooth – supporting tissues, periodontal ligaments or bone.

Acute gingivitis:

Common etiological factors:

Plaque associated gingivitis

Drug induced gingivitis: OC pills, cyclosporine, phenytoin sodium, nifedipine are most common medication.

Acute bacterial gingivitis: caused by Lancefield A streptococcus

Herpetic gingivostomatitis

Other systemic factors: pregnancy induced
Diabetes associated
Leukemia associated
Vit. C deficiency
AIDS associated
Puberty induced
Protein deficiency

Malocclusion
Mouth breathing
Smoking
Improper oral hygiene
Ill-fitting dentures
Orthodontic treatment

Clinical features:

- Congested and oedematous gums
- Painful & hypersensitive gums
- Bleeding from gums
- Plaque / calculus deposition
- Foul smell in breath
- Bad taste because of bacteria built up

Management:

Plaque control with maintenance of oral hygiene, mechanical and chemical plaque control
Use of mouthwash and flossing
Severe gingivitis may require antibiotics i.e. metronidazole 500 TID, clindamycin 150mg TID, amox clavulanate 625 mg BID
Vit. C supplement, protein supplement, calcium dietary intake
Reducing the drug dosage which are responsible for gingivitis.

Chronic gingivitis:

Chronic gingivitis is a persistent inflammation of the gingiva, the soft tissue surrounding the teeth without the destruction of supporting tissues.

In people with chronic gingivitis, the condition can progress to tooth loss and can expose the patient to the risk of developing serious infections.

In the absence of treatment, gingivitis may progress to periodontitis.

Chronic suppurative recessive gingivitis:

Due to chronic inflammation localised or generalised inflammatory enlargement of gingiva takes place, which is generally papillary as marginal.

Deep red or bluish red coloured lesions are soft and friable with smooth shiny surface.

There is tendency of bleeding.

It progresses slowly and painlessly unless complicated by acute secondary infection or trauma.

Sometimes painful ulceration may occur.

Apical / periapical abscess:

Definition:

There is a collection of pus in alveolar bone at root apex of tooth following death of pulp. Pain is typically localised in the tooth.

Classification:

Two variants are seen first is acute periapical abscess and secondly chronic periapical abscess.

Chronic periapical abscess is usually painless with an associated sinus formation.

Pathology:

Bacterial invasion → breakdown the dentine → if the decay continues than pulpitis precipitates → progression of the bacteria to deeper alveolar bone → collection of inflammatory products around the tooth apex → periapical abscess

Clinical features:

Tooth involved in extremely painful and often awakes the patient from sleep. Pain is sharp and throbbing.

Percussion tenderness is always positive.

Localised oedema is cardinal feature.

Radiologically widening of the periodontal apical space is an important finding.

Management:

Drainage of the pus with a high speed diamond drill through pulp chamber.

Local anaesthesia and sedation may be required to complete the procedure.

Broad spectrum antibiotic coverage must be initiated amoxicillin 500 mg TDS, metronidazole 400 mg TDS for 5 – 7 days.

Sometimes extraction has to be performed also in selected cases.

Once the pulp chamber is opened it is thoroughly irrigated with an antibiotic solution to decrease bacterial load.

Root canal treatment (RCT)

Periodontitis:

Definition:

Periodontitis is defined as an inflammatory disease of the supporting tissues of the teeth caused by specific micro-organisms or group of specific microorganisms resulting in progressive destruction of periodontal ligament and alveolar bone with pocket formation, recession or both.

Clinical feature that distinguishes periodontitis from gingivitis is the presence of clinically detectable attachment loss.

Different forms of periodontitis:

1. Acute periodontitis
2. Chronic periodontitis
3. Aggressive periodontitis
4. Necrotising periodontitis
5. Periodontal abscess

Etiological factors:

Dental plaque

Colonization of microbes in the gingival sulcus

Progressive from chronic gingivitis

Immunology

Local factors: calculus, trauma & hygiene

Systemic factors: genetic predisposing, diabetes, smoking, nutritional status

Pathogenesis:

Plaque aggregation leads to local erythema and inflammatory response. There is break down of the collagen & connective tissue fibres with junctional tissue congestion.

Plasma cells and lymphocytic infiltration progresses of the junctional tissue to pocket formation.

In advance disease this pocket deepens and loss of periodontal connective tissue attachment with surrounding alveolar bone.

Clinical features:

Loosening of teeth

Spontaneous bleeding of gingival

Resorption of alveolar bone

Subgingival calculus

Abnormal teeth mobility

Swollen gums, bright red or purplish gingival surfaces.

Gingival recession which makes the teeth to appear longer

Foul smell in breath.

Management:

Initial management includes restoring oral hygiene, interdental cleaning by flossing, cessation of smoking and removal of plaque.

Interventional management includes scaling of teeth for plaque removal, root debridement and well directed use of antibiotics (Amoxicillin, metronidazole)

Occlusal adjustment and pocket restoration work.

Rinsing

Periodontal surgery: apical restoration flaps, gingivectomy

Pyorrhoea alveolaris:

Pyorrhoea also known medically as pyorrhoea alveolaris.

It is a set of inflammatory diseases affecting the periodontium, i.e. the tissue that surround and support the teeth.

Pyorrhoea involves progressive loss of the alveolar bone around the teeth, and if left untreated, can lead to the loosening and subsequent loss of teeth.

Pyorrhoea is caused by microorganism that adhere to and grow on the tooth's surface.

Etiological factors:

Poor oral hygiene

Dental plaque

Poor nutrition

Poorly controlled diabetes

Chronic gingivitis

Heavy smoking

Clinical presentation:

Congested and oedematous gums

Painless bleeding gums while brushing teeth & flossing

Foul smell in breath

Persistent metallic taste in mouth

Gingival recession with bone destruction resulting in apparent lengthening of teeth.

True pocket formation between the teeth and the gums.

Loosening of the teeth

Management:

Initial management includes restoring oral hygiene, interdental cleaning by flossing, cessation of smoking and removal of plaque.

Interventional management includes scaling of the teeth for plaque removal (sickles, curette, chisels, ultrasonic instruments used), root debridement and well directed use of antibiotics (amoxicillin, metronidazole etc.)

Extra topics that have been asked in exams:

Write the ingredients of dashansanskara churna:

Shunthi, haritaki, musta, khadira, karpura, puga bhasma, maricha, lavanga, twak, khatika

Write the name of dantamoola gata roga in which bleeding occurs as per sushruta:

- | | |
|-----------------|------------------------------|
| • Sheetada | • Upakusha |
| • Dantaveshtaka | • Danta vidradhi if ruptured |

Write names of ashadhya dantamulagata roga:

- | | |
|--------------------------|-----------------|
| 1. Sannipataja dantanadi | 2. Mahasaushira |
|--------------------------|-----------------|

DANTA ROGA (DENTAL DISEASES)

1. Detailed study of Etiology, pathology, classification, clinical features and management of Daalan, Krimidanta, Dantaharsha, Danta sharkara, Hanumoksha

Danta roga according to sushruta: 8

- | | | |
|-----------------|---------------|-----------------|
| 1. Daalana | 4. Bhanjanaka | 7. Shyavdantaka |
| 2. Krimidanta | 5. Sharkara | 8. Hanumoksha |
| 3. Danta harsha | 6. Kapalika | |

A.H. added 3 new danta roga: danta chala, karal danta, adhidanta.
None other acharya than sushruta add hanumoksha as danta roga.

Daalana (sushruta) / sheetadanta (A.H.):

Rupa:

Sushruta:

Teeth get cracked with various types

Severe pain

Due to vata

A.H.:

Vataja vyadhi

Only hot food items are tolerable

But severe pain gets precipitated whenever cold food items / drinks come in contact with that tooth

pain as someone is pulling / extracting the tooth.

Dosha: vata

Asadhya (Su / Dalhana) sadhya (A.H.)

Chikitsa:

No treatment described by sushruta as asadhya

Swedana with warm water

Gums of affected teeth should be reflected and then scrapping is performed on that tooth with vrihimukha shastra.

A pichu soaked in warm oil is used for cauterization

Pratisarana with powders of musta, saindhava, bark of dadima, triphala, rasanjana, seed of jambu and nagar mixed with honey and ghrita is applied.

Decoction of bark of milky trees is used for kavala.

Nasya with anutaila.

Krimidanta / dental caries:

Rupa:

Sushruta:

Due to vitiation of vata, tooth becomes black and then cavity gets created in a tooth.

Then after tooth becomes loose.

Strava, shotha, and pain sometimes pain without any reason.

A.H.:

A black coloured cavity gets created in a tooth because of absorption of dantamajja of tooth by vitiated vata predominant tridosha.

Food material filling the cavity gets putrefied and generates organisms which induces inflammation with bouts of severe pain without any reason.

It is followed by blood stained purulent discharge with loosening and shaking of tooth.

Dosha: vata (Su.), vata predominant tridosha (A.H.)

Sadhya

Chikitsa:

If the tooth remains immobile

If the tooth is immobile svedana, raktamokshana, vatahara avapeedana nasya should be used.

Snehika gandusha dharana

Lepa of bhadradarvadi & punarnavadi gana dravya.

Snigdha ahara.

If the tooth is mobile:

If the tooth is mobile, it should be extracted.

After tooth extraction, the hollow cavity is cauterized.

Nasya is executed with oil processed with vidari, yashtimadhu, shrungataka, Kakeruka and ten times the quantity of drugs.

Ayurveda:

If the tooth remains immobile:

Swedana followed by raktamokshana is performed

Agnikarma: madhu or bee wax is filled in tooth cavity followed by thermal cauterization

Vedanahara remedy:

1. Poorana: milky sap of arka or sarshapa taila or karanja taila filled in cavity, cures pain due to krimi.
2. Powders of hingu, katphala, kasisa, svarjika, kushtha and vella is tied in a cloth and held in tooth. It also cures the pain.

Gandusha: with oil processed with above mentioned hingu and other ingredients or decoction of roots of eranda, two types of vyaghri and bhukadamba or sneha gandusha is indicated.

If the tooth is mobile:

Dantaddharana: in spite of all the above measures, if pain does not subside, then even a firmly fixed tooth should be extracted.

Gums are first separated and excised. The tooth is then moved from side to side either with sandansha yantra or dantanirghanatan yantra or mudgara or stone and then extracted along with all the roots.

Agnikarma after tooth extraction.

Gandusha with powder of yashtimadhu mixed in oil or honey with warm water.

Danta harsha (pulpitis / hyperesthesia of the teeth):

Sushruta:

Vata vyadhi

Tooth is intolerable to sheeta, ushna and even touch.

Ayurveda:

When teeth are sensitised to cold / breeze, hot, dry and sour eatables as well as any other touch, pain and shaky feeling is precipitated due to contact of sour eatables, the condition is called 'dantaharsha'.

Dosha: vata – Su / A.H.; Vata-pitta - yogaratnakara / bhavaprakasha

Sadhya: sushruta; yasya: A.H.

Chikitsa:

Sushruta:

Kavala: trivrita ghrita, mahasneha or warm decoction of vata mitigating drugs is advised. It cures Dantaharsha.

Vata mitigating measures like oily fumigation and nasya, shirobasti etc. should be performed.

Food items with plenty of fats should be eaten. Meat juice, yavagu processed with meat juice, milk, cream, ghrita should be abundantly used.

A.H.:

Gandusha: milk processed with yashtimadhu and tila should be held in mouth.

Danta sharkara (Dental calculus):

Sushruta:

On the teeth, sharkara like mala accumulates

It destroys the normal qualities / beauty of teeth like white shining appearance, firmness etc.

Ayurveda:

If the teeth are not regularly brushed; a sugar grain or gravel like, coarse, dirt / tartar develops and gets adhered to teeth.

It emits foul smell and is caused by drying up of kapha by vayu (A.H.) vata pitta (M.N.)

Dosha: vata (B.P. / A.H.) vata pitta (M.N.)

Sadhya

Chikitsa:

Sushruta:

Lekhana: dantasharkara is scraped from teeth / roots of teeth with an instrument without causing any damage to gums.

Pratisarana: application of laksha powder with honey.

Kavala: trivrita ghrita, mahasneha or warm decoction of vata mitigating drugs is advised.

Snaihika dhuma & nasya, snigdha bhojana, mamsa rasa, yavagu processed with mamsarasa, milk, cream, ghrita, shirobasti should apply.

A.H.: Pratisarana with kshara + madhu

Hanumoksha (temporo – mandibular joint dislocation):

Charaka samhita, astanga sangraha, bhavaprakasha, M.N. included this disease in vata roga under title 'hanusransa' along with hanugraha.

Etiological factors like ardita:

Sushruta:

Pregnant woman, puerperium woman, child, old person, loud speaking, chewing of hard substance, loud laughing and yawning, lifting heavy weight, sleeping on uneven bed etc.

Vayu gets aggravated and hanu sandhi slip from original place.

Rupa like ardita:

Dislocation of temporomandibular joint.

Pain in teeth

Tremors in head, difficulty in speaking

Deformity in netra, karna, nasa

Sadhya, but → asadhya if

Kshina

Difficulty in opening & closing eyes

Continuous difficult speech

Originate aggressively

Three years old

With tremors

Charaka:

Aggravated vayu placed at moola of hanu loosen the hanu from its sandhi with stiffness, pain and opening of mouth. After stiffness it closes the mouth and produces hanugraha.

Madhava nidana:

Due to excessive jihva nirlekhana, sushka ahara, due to trauma vayu aggravates from hanu mula and dislocate downwards to hanu.

1. It opens the mouth
Patient chewing and speaks with difficulty.
2. Mouth also closes. It is hanusransa.

Chikitsa:

Place both hanuvasthi near

Swedana karma done on hanusandhi

Apply panchangi bandha

Nasya karma done by taila processed with vataghna, vidarigandhadi and kakolyadi gana dravya

Apply sheetala lepa externally on tooth.

Sechana with jala mixed with sheetal dravya i.e. madhu, ghrita, Nyagrodhadi kashaya, kalka, churna

Drink milk with kamalanala

Shirobasti, dhooma, nasya, upanaha, snehana, nadisweda

Use of ksheera taila

2. Brief Knowledge of karala, Bhanjanak, Kapalika, Shyava Danta, Danta bheda,

Karala danta (mal occlusion):

Acharya sushruta has not described this disease:

करालस्तु करालानां दशनानां समुद्भवः ।

Vayu situated at teeth slowly irregulate and abnormal eruption of teeth.

It spoiling the beauty of face

Dosha: vata

Asadhya

Due to asadhya there is no treatment.

Bhanjanaka (osteomyelitis of maxilla & mandible):

Bhanjanaka described by sushruta & Madhava nidana

Rupa:

Deviation of face (face becomes vakra)

Teeth become fracture

Severe pain

Kaphavata janya vyadhi

Asadhya

No treatment as asadhya

Kapalika (teeth attrition and erosion):

Rupa:

The condition in which dantavalkala i.e. enamel of teeth along with dantasharkara is cracked, separated and fall is called as kapalika.

It is caused due to negligence of dantasharkara.

If not properly and promptly treated, tooth may get destroyed (दशनानां विनाशिनी)

Dosha: vata (based on features)

Sadhyasadhyata:

Kruchrasadhyata → sushruta

Asadhyata → dalhana

Sadhyata → A.H.

Chikitsa:

Dantasharkaravat chikitsa

Lekhana: dantasharkara is scraped from teeth / roots of teeth with an instrument without causing any damage to gums.

Pratisarana: application of laksha powder with honey.

Kavala: trivrita ghrita, mahasneha or warm decoction of vata mitigating drugs is advised.

Snaihika dhuma & nasya, snigdha ahara, mamsa rasa, yavagu processed with mamsa rasa, milk, cream, ghrita, shirobasti should apply.

Shyava danta (tooth staining / discolouration):

Teeth get burnt / charred due to vitiation of rakta & pitta and become bluish, blackish or greyish. This condition is called shyava danta.

Dosha: rakta, pitta (Sushruta / Madhava nidana); rakta, pitta, vata (A.H. / B.P. / Y.R.)

Asadhyata

Due to asadhyata – no treatment

Danta bheda (fracture of teeth):

Dantabheda is described by acharya vagbhata:

Rupa:

A.H.:

Severe pricking, tearing, bursting type of pain is induced by fractured or cracked teeth.

Sadhyasadhyata: yapya (A.H.)

Asadhyata if tooth is fractured

Chikitsa:

Total vata mitigating treatment

Gandusha with milk processed with tila and yashtimadhu

3. Danta chala, Adhidanta, Danta Utpatana including Jalandhar bandha method and Danta Purna.

Danta chala (tooth mobility):

Acharya sushruta has not described danta chala.

Rupa:

Condition in which shaking of teeth occurs, which induces severe pain during mastication. Pain increases more during eating hard food stuffs and the condition is called danta chala.

Dosha: vata (based on features)

Sadhyasadhyata: sadhya

Chikitsa:

Gandusha with decoction of dashamula mixed with mahasneha.

Fomentation by warm decoction of arka cures teeth mobility.

Pratisarana with paste of tuttha, lodhra, pippali, triphala, patanga (rakta chandana) and saindhava

Snaihika dhooma and nasya

Unctuous meals containing madhura rasa should be given.

Adhidanta (super numerary tooth):

Rupa:

Eruption of an extra / supernumerary tooth is called adhidanta.

Eruption of extra teeth accompanied by severe pain

Pain subsides once eruption is completed.

Chikitsa:

Dantanirharana: a coating of kshara is given around the extra tooth so that it becomes loose and then extracted like a krimidanta.

It should be followed by agnikarma to control the bleeding

Krimidanta samana chikitsa

Svedana, raktamokshana, vatahara avpeedana nasya

Snaihika gandusha

Lepa of bhadradarvadi & punarnavadi dravya

Danta utpatana including jalandhara bandha:

Purva karma:

In this stage first the patient is examined thoroughly and the decision is taken whether the teeth should be treated conservatively or it needs extraction.

If it needs extraction then the patient is educated priorly about the procedure of the yogic teeth extraction and he is prepared both mentally and physically.

While extraction special care is taken, if the patient is krusha, durbala, vriddha or suffering from any neurological problems.

Pradhana karma:

Patient is made to sit in sukhasana or padmasana on wooden plank of 2 – 3 feet inch height.

He should be calm, relaxed and should concentrate on Vishuddha chakra.

Then he is asked to hold both the knees firmly with his palm and fingers.

After that the ayurvedic dental surgeon stands behind the patient and puts cloth over his head and bends his head towards chest, so that the chin gets locked to the supra sternal notch or jugular notch.

Danta vaidhya then puts pressure over the sushumna nadi with his left knee and puts pressure over trigeminal nerve with his left hand.

Then the patient's head is slightly moved up and down for 2 – 3 times, then the head is lifted and tooth is extracted by using 'simha mukha yantra' or with any other suitable sandhamsha yantra.

It is said that 'vatadritaenasti ruja' i.e. there is no pain without vitiation of vata dosha. Here vata is controlled by doing jalandhara bandha which in turn blocks the pain path and thus helps in painless tooth extraction.

Pashchata karma:

In this step utmost care of the patient is taken to reduce the chances of infection and to promote wound healing.

Hence, patient is given with vranaropana and raktastambhaka gandusha and dressing is done with suitable ayurvedic antiseptic drugs.

Then nasya is given with medicated oil prepared out of vidari, yashtimadhu, ksheera etc.

Patient is advised to take snigdha, Swadu, sheetala and mrudu ahara

And also, he is advised not to spit forcibly, not to use hot and spicy foods for 24 hours.

4. Knowledge of Dental Caries, Dental Tartar & Tooth extraction.

Dental caries:

Definition:

Dental caries is a microbial disease of calcified tissues of teeth characterised by demineralization of portion and destruction of organic substance of tooth.

It is the most prevalent chronic disease affecting the human race that affect both male and female, every age group, all races and socio-economical groups.

Frequent site of dental caries: approximated enamel surface pits, fissures and cervical margins.

Pathophysiology: excessive sugar / carbohydrate dietary intake → metabolism of this carbohydrates by plaque bacteria → decreased pH of the tooth surface → calcium and phosphorous ions moves out from the enamel → demineralization occurs → dental caries

Relation of sugar and dental caries: dental caries is much more prevalent in the areas where sugar intake is high especially cane sugar and decreased sugar intake definitely helps in caries control.

Saliva is as a natural protection from dental caries.

Types of dental caries:

1. Enamel caries:

These are initially represented by white spots on the enamel surface which in fact is nothing but a more demineralized area just under the surface of enamel itself.

With progressive fermentation by bacteria this enamel surface become rough in surface and stained too.

This stained area progresses further to become a pitted and a fully cavitation is the usual outcome.

2. Dentine caries:

They tend to occur when the enamel caries extends to amelodentinal junction & the spread primarily lateral in direction.

3. Fissure caries:

They are the very first areas to be involved in caries, usually pits and fissures of the teeth are involved.

4. Occult caries:

This particular group is represented by significant dentine loss without much of enamel involvement and hence is difficult to be clinically perceptible.

Occlusal surfaces are the most common site.

5. Root caries:

They occur after significant gingival recession.

They are of light yellow or dark yellow in colour mostly seen in elderly population.

6. Arrested caries:

Hardly progress and becomes inactive after certain period of time.

The possible cause may be remineralization and fluoride support.

Microbiology of dental caries:

Most commonly implicated bacteria are streptococcus mutans, streptococcus sobrinus and lactobacillus species.

Diagnosis of dental caries:

1. Inspection:

Careful and vigilant examination of each tooth in with good light source is essential.

Tooth is made dry before inspecting which improves the visualization of white lesions.

Sharp probing should not be used for cavity detection as the fragile top enamel may collapse.

Magnification of 2× and 5× will help and for this loupe are helpful.

2. Radiological diagnosis:

As occult caries is difficult to diagnose by inspection alone and bitewing radiograph is used for caries detection.

3. Fiber optic illumination probe:

These are used with fine tip of dentine at the approximal sites.

4. Electronic caries detector / diagnodent (a laser base instrument)

Management:

1. Prevention: this can be achieved by dietary advices, increasing fluoride intake, sealing the fissure and maintaining good oral hygiene by brushing, flossing etc.
2. Active plaque removal by professional: scaling
3. Sealing of the pits and fissures:

They protect from bacterial proliferation and can potentiate cavity formation.

Various restorative and sealing material used in dental practices are –

Dental amalgam

Resin composites: quartz, borosilicate glass

Temporary cements: ZnO, Gutta percha

Resin modified glass ionomers

Dental tartar (calculus):

Definition:

Dental calculus / tartar is a yellowish or brown layer of mineral deposits on the teeth surface created by hardened dental plaque that may cause inflammation pathologies of the gingival tissue.

Calcium, phosphorous and other minerals from saliva are absorbed into dental plaque and harden its structure. This hardened structure is dental calculus.

Types of dental calculus:

1. Supra gingival calculus / salivary calculus:

Most common

Located coronal to gingival margin and visible in oral cavity

White or whitish yellow

Has hard, clay like consistency

It is easily detached from surface

May be localised or generalised

Most common site is lingual area of mandibular incisors.

2. Subgingival / serumal calculus:

Localised below the crest of marginal gingiva and therefore not visible on routine examination.

Dense, dark brown or greenish black

Has a hard or rock like consistency

Firmly attached to tooth surface

Most common site is lingual area of mandibular incisors and buccal surface of maxillary molar.

Management:

1. Proper oral hygiene: this is base for the prophylaxis of calculus. Commonly used aid in the cause are tooth brushing, flossing, tape, super floss, wooden sticks and interproximal brushes.

2. Scaling and root planning:

This involves supra gingival and sub gingival debris removal. Ultrasonic scalers and manual scalers are used for this purpose.

Chisels, sickles, hoes and various curettes are used for the manual scaling made up of stainless steel or tungsten carbide.

Tooth extraction:

- A dental extraction is the removal of teeth from the dental alveolus in the alveolar bone.
- Extractions are performed for a wide variety of reasons, but most commonly to remove teeth which have become unrestorable through tooth decay, periodontal disease, dental trauma, especially when they are associated with toothache.
- Sometimes impacted wisdom teeth cause recurrent infections of the gum and may be removed.
- In orthodontics to create space so the rest of the teeth can be straightened.

Method:

- A comprehensive history taking should be performed.
- Obtaining consent from patient and explain brief tooth extraction, potential risks of procedure and benefits of the procedure.
- Before extracting a tooth, the dentist would deliver local anaesthesia.
- Extraction forceps are commonly used to remove teeth
- Different shaped forceps are available depending on the type of tooth requiring removal, what side of the mouth it is on and if it is an upper or lower tooth.
- The beaks of the forceps must grip on the root of the tooth securely before pressure is applied along the long axis of the tooth towards the root.
- Different movements of the forceps can be employed to remove teeth
- While keeping downwards pressure attempts to move the tooth towards the cheek side and then the opposite direction is made to loosen the tooth from its sockets.
- Biting down on a piece of sterile gauze over the socket will provide firm pressure to the wound.
- Moreover, the patient must be inhibited from eating and drinking hot food in the first 24 hours.
- Using straw for drinking is also prohibited due to negative pressure it can produce which will lead to removal of a newly formed clot from the socket.

Extra topics that have been asked in exams:

Write the name of danta as per ayurveda:

1. Raja danta (central incisor)
2. Bastha danta (lateral incisor)
3. Danstra danta (canine)
4. Surudha danta (premolar)
5. Hanavya danta (molar)

Give the cardinal symptoms of dental caries:

Toothache when biting and tooth sensitivity is cardinal symptoms of dental caries.

Then grey, brown or black spots appearing on teeth and bad breath.

Write the number and names of teeth in primarily dentition:

2102/2102 → four incisors, two canines and four molars in each jaw (total of 20 teeth)

Write the names of asadhya dantaroga according to sushruta:

1. Shyavadanta
2. Daalana
3. Bhanjanaka

JIHWA GATA ROGA (DISEASES OF TONGUE)

1. Detailed study of Etiology, pathology, classification, clinical features and management of - jihva kantaka (vataja, pittaja and kaphaja)

Jihwagata roga according to sushruta: 5

- | | |
|--------------------|---------------|
| 1. Vataja kantaka | 4. Alasa |
| 2. Pittaja kantaka | 5. Upajihvika |
| 3. Kaphaja kantaka | |

Acharya vagbhata added adhijihvika (6 rogas)

Acharya sushruta mentioned adhijihvika into kanthagata vyadhi

Jihwa trikantaka:

Sushruta:

1. Vataja kantaka (fissured tongue):

Tongue rough like leave of shaka tree, cracked or fissured with numbness, loss of taste sensation is called vataja jhwakantaka

Dosha: vata

Sadhyasadyata: sadhya

2. Pittaja kantaka (benign migratory glossitis):

A yellow coloured tongue, full of sprouty reddish muscular growth and associated with burning sensation is called pittaja jhwakantaka.

Dosha: pitta

Sadhyasadyata: sadhya

3. Kaphaja kantaka:

Tongue is fully covered by muscular papillae resembling thorns of shalmali, becomes thick and heavy

Dosha: kapha

Sadhyasadyata: sadhya

Chikitsa:

Sushruta:

1. Vataja kantaka:

Treatment same as vataja osha prakopa

Abhyanga with madhuchista (bee wax) + mahasneha

Nadi sveda

Upanaha sweda with salvana churna

Nasya with vatahara dravya taila

Pratisarana with powder of shrivestaka, sarjarasa, guggulu and yashtimadhu

2. Pittaja kantaka:

Lekhana and raktamokshana – tongue is scrapped and draining out the vitiated rakta
Pratisarana, gandusha and nasya with drugs having madhura rasa.

3. Kaphaja kantaka:

Lekhana and draining out the vitiated rakta
Pratisarana with pippaliyadi gana dravya + madhu
Kavala with white sarshapa mixed with saindhava lavana
Patient should be fed with gruel of patola, nimba, vartaka and yavakshara

2. Brief Knowledge of Upajihva, Adhijihva, Alasa.

Upajihva (ranula / sublingual gland retention cyst):

Rupa:

Sushruta:

Due to vitiation of kapha and rakta, swelling shaped like tip of tongue, which by being underneath elevates it and is associated with salivation, itching and burning sensation.

Dosha: kapha, rakta

Sadhya

Pakopjihva – asadhya

Site: below tongue / ventral surface

Ayurveda:

Charaka:

Vitiated kapha → sthana samshraya into root of tongue → swelling quickly into root of tongue → upjihvika

Due to swelling by kapha on tongue → Upajihvika

A.H.: growth is situated above the tongue.

Swelling occur at root of tongue like tip of tongue, occurs ankura.

Swelling occurs due to kapha, pitta & rakta

There is salivation, stiffness and roughness, pain, itching

Difficulty in speaking & eating – asadhya

Chikitsa:

Sushruta:

Scrapping the tongue to draining vitiated rakta

Followed by pratisarana with kshara

Vairechanika dhooma, shirovirechana, gandusha with white sarshapa mixed with saindhava lavana.

A.H.:

Scrapping by leave of shaka tree or angulishastra to raktasrava

Pratisarana with yavakshara

Adhijihva (epiglottitis / supraglottitis):

Sushruta:

Acharya sushruta described adhijihva in kantha roga

Vitiation of rakta & kapha

Above base of tongue / dorsal surface

Swelling resembles tip of tongue

It should be discarded if suppurated (pakwavastha – asadhya)

Ama avastha – sadhya

Charaka:

Swelling below the tongue → adhijihwika

A.H.:

Below root of tongue, near frenulum / ventral surface

A sprout, rough growth resembling tip of tongue is associated with salivation, osha, dragging stiffness, difficulty in speaking and swallowing.

Dosha: kapha, pitta, rakta; Asadhya

Chikitsa:

Sushruta:

- Aka kala bhojana with yava alpa ahara
- Lekhana karma
- Upajihvika vata chikitsa
- Pratisarana with kshara
- Shirovirechana, gandusha, dhooma

A.H. / A.S.:

After elevating tongue, growth is held by badisha yantra and excised with mandalagra shastra

Followed by pratisarana with ushna, tikshana dravya

Strong nasya

Difference between Upajihwika & adhijihwika:

Upajihwa	Adhijihwa
Sushruta: Described in jihwagata roga Below tongue / ventral surface Sadhya	Sushruta: Described in kantha roga Above base of tongue / dorsal surface Pakwavastha: asadhya Aka kala bhojana with yava anna
Charaka: Shotha on the tongue	Charaka: Shotha below the tongue
A.H.: Above the tongue Lakshana of sushruta's Upajihwika same as charaka & vagbhata's adhojihwa Described in jihwa roga Scrapping with shaka leaf Pratisarana with yavakshara	A.H.: Below the tongue Charaka & vagbhata's adhojihwa Same as sushruta's upajihwa Described in jihwa roga Growth is excised by mandalagra Pratisarana with ushna, tikshna dravya

Alasa (ludwig's angina / carcinoma of tongue & floor mouth III & IV stage):

Rupa:

An intruded, raised swelling develops below tongue / ventral surface

In advanced stage, stiffness of tongue

With intense suppuration develops at root of tongue

Dosha: kapha & rakta

Sadhyasadhyata: asadhya

A.H.:

Rupa:

Due to kapha & pitta, swelling occurs below the tongue

Stiffness of tongue

It emits fishy smell accompanied by denotation of muscular tissue

Dosha: kapha, pittaja

Sadhyasadhyata: asadhya

But vagbhata described treatment for 'nutan alasa'.

Chikitsa:

Recently developed jihwalasa management similar to kaphaja jihwakantaka with pratisarana of ingredients like sharshapa, trikatu etc.

Gandusha, nasya can be performed along with siravedha

But surgery is contraindicated

Dalhana advises pratyakhyeya chikitsa like virechana, raktamokshana, kavala, shirovirechana, dhumapana and vamana.

3. Knowledge of Glossitis, Tongue Tie, Ranula, Benign and Malignant Tumors of tongue.

Glossitis:

Definition:

Glossitis is an inflammatory tongue involvement in which tongue is swollen and surface of the tongue appear smooth / glossy.

The condition may have bimodal presentation i.e. painful and painless

Possible etiological factors:

Dryness of oral cavity

Injury from burns, rough edges of teeth

Tobacco, alcohols, hot foods, excessive spices or other irritants

Allergic reaction to toothpaste, mouthwashes

Iron deficiency anaemia, vit B deficiencies

Infections: bacteria, viral or fungal

Symptoms:

Painful swelling, mastication & mobility

Depapillated and abnormally smooth surface of tongue

Reddish and tender tongue

Tongue swelling

Classification:

- a. Primary: where there is no underlying cause
- b. Secondary: where it is a sign or symptom of other condition

- a. Acute glossitis
- b. Chronic glossitis

Other nonspecific forms of glossitis:

- 1. Atrophic glossitis
- 2. Median rhomboid glossitis
- 3. Benign migratory glossitis: also called as erythema migrans
 - Absolutely benign pathology of unknown origin
 - Multiple flattened erythematous area of dorsum of tongue
 - No treatment required
 - The area of depapillation changes from changes one place to other hence the name migratory glossitis
- 4. Strawberry tongue

Treatment:

Good oral hygiene

Corticosteroids i.e. prednisone in rare cases

Antibiotics, antifungal & microbial agents

Anaemia & nutritional deficiencies must be addressed adequately.

Tongue tie / ankyloglossia:

It is congenital anomaly that may decrease mobility of the tongue tip.

Causes:

Typically, the lingual frenulum separates before birth

Lingual frenulum attached to the bottom of the tongue.

Some cases of the tongue tie associated with genetic factors

Symptoms:

Difficulty in lifting tongue to the upper teeth or moving the tongue from side to side
Trouble sticking out the tongue past the lower front teeth
Tongue shape – appears notched or heart shaped
Interfere with eating and speaking
Difficulty attached for the duration of the feed
Child hungry all the time
Not gaining weight
Teeth grinding
Vomiting straight after feeding

Complications:

Breast feeding problems
Speech difficulties
Poor oral hygiene
Challenges with other oral activities like licking the tips, kissing or playing a wind instrument

Treatment:

1. Non-surgical: using exercise to strengthen & improve the function of the facial muscle & thus promote proper function of the face, mouth & tongue
2. Surgical: frenotomy (frenectomy, frenulectomy, frenuloplasty)
Soft tissue lasers, such as CO₂ laser.

Ranula:

Definition:

Ranula is extra glandular and extra ductal collection of saliva as a result of occlusion of minor salivary gland duct.

The word ranula is derived from latin word 'rana' which means 'frog' as the swelling look like underbelly of a frog.

Clinical features:

Simple ranula: painless, progressive, dome shaped swelling in the floor of the oral cavity (usually in one side)

Translucent, compressible, non-reducible swelling with bluish appearance.

Differential diagnosis:

- Dermoid cyst
- Cystic hygroma
- Cervical abscess
- Thyroglossal duct cyst
- Branchial cleft cyst

Treatment:

Surgical resection is curative but requires not only excision of the cyst component but also of the parent sublingual gland.

If the gland is left situ the recurrence may occur.

Various surgical possibilities are available including:

1. Marsupialization
2. Excision of the sublingual gland
3. Excision of ranula with or without sublingual gland
4. Sclerotherapy

Benign and malignant tumours of tongue:

Benign tumours:

Tumours can be cystic or solid

1. Cystic lesions
 - Mucus cyst (mucocele)
 - Ranula
 - Dermoid cyst
2. Solid tumours:
 - Fibrous & papillomas
 - Haemangiomas
 - Lymphangiomas
 - Torus
 - Swelling of gums
 - Pleomorphic adenomas

Malignant tumours:

Malignancies of the tongue represent one of the greatest management challenges for the head and neck oncologist because of the adverse effects of treatment on oral and pharyngeal function, the eventual quality of life, and poor prognosis of advance disease.

Squamous cell carcinoma is by far the most common malignancy of the tongue, typically having 3 gross morphologic growth patterns viz. 1. Exophytic 2. Ulcerative 3. Infiltrative

Because of their location, routine detection of tongue malignancies is possible early in their presentation.

Predisposing factors:

- Alcohol abuse
- Smoking
- Tobacco chewing
- Poor oral hygiene
- Sharp teeth
- Ill-fitting dental appliances

Clinical features:

- Ulcerated mouth with raised margins
- Pain can be severe – referred to ear
- Dysphagia
- Loose teeth
- Growth & lump inside the mouth
- White & red patches inside the mouth

Treatment:

Surgery – for 1st & 2nd stage, excision of tumours

Radiation – brachytherapy, external beam therapy

Chemotherapy

Extra topics that have been asked in exams:

Give the name of taste buds

1. Fungiform
2. Circumvallate
3. Foliate

4 papillae:

1. Fungiform
2. Filiform
3. Foliate
4. Vallate

Write the names of asadhya jihwa roga according to sushruta:

1. Alasa

TALU ROGA (DISEASES OF PALATE)

1. Detailed study of Etiology, pathology, classification, clinical features and management of - Gala shundika, Talushosha, Talupaka

Acharya sushruta has described 9 talugata roga:

- | | | |
|-----------------|-------------------|-----------------|
| 1. Galashundika | 4. Mamsa kacchapa | 7. Talu pupputa |
| 2. Tundikeri | 5. Arbuda | 8. Talu shosha |
| 3. Adhrusha | 6. Mamsa sanghata | 9. Talu paka |

Acharya vagbhata described tundikeri in kantha & gala gata roga

Acharya vagbhata has not described adhrusha

Acharya vagbhata added talupitika as new roga.

Gala shundika (elongated uvula):

Charaka:

Aggravated kapha → sthana samshraya into talumula → swelling quickly → Galashundika

Sushruta:

Aggravated kapha + rakta → swelling developed from base of talu resembling elongated and distended bladder

Associated with thirst, cough and dyspnoea

A.H.:

A soft, slimy, elongated and hanging swelling resembling like the distended bladder of fish; develops at the base of talu.

It causes cough, dyspnoea, obstruction in throat, regurgitation of food through nose, thirst and vomiting.

Dosha: kapha & rakta

Sadhyasadyata: sadhya

Chikitsa:

Galashundika above the tongue should be pulled with thumb and first finger

Chedana karma (excision) with mandalagra shastra

Not more, not less, 1/3 portion should be excised

Excessive excision: excessive excision of Galashundika more than 1/3rd portion, may cause death due to excessive haemorrhage

Inadequate excision: if the excision is inadequate i.e. less than 1/3rd portion, then the patient does not get any relief and suffers from complications like swelling, excessive salivation, drowsiness, vertigo, Tamodarshana etc.

Pashchata karma:

Pratisarana: powder of maricha, ativisha, patha, vacha, kushtha, aralu mixed with madhu and lavana is applied after chedana.

Kavala: decoction of vacha, ativisha, patha, rasna, katuki and nimba should be used as gargle.

Dhoomapana: panchangi varti is prepared by mixture of ingudi, kinihi, danti, trivruta, and devadaru with plenty of aromatic drugs. Dhoomapana with this varti should be done twice a day for mitigating kapha.

Yushapana: yava kshara processed mudga yusha should be given to patient as a wholesome diet.

A.H.:

Pratisarana, gandusha and nasya with kapha mitigating drugs is beneficial if Galashundika is not excessively elongated

An enlarged Galashundika resembling cucumber seed, which is devoid of any vessel and it's tip is reaching the tongue; is an ideal for surgery

The Galashundika should be held with badisha / muchundi yantra and excised with mandalagra

If cut from root → raktakshaya → death

If cut inadequate → disease aggravates

Talushosha (xerostomia):

Rupa:

Excessive dryness, cracks on talu and dyspnoea develops due to vitiation of vata and pitta.

A.H.: as well as secondary to fever and excessive exertion

Dosha: vata, pitta

Sadhyasadhyata: sadhya

Chikitsa:

Sushruta:

In talushosha snehana, svedana and other vata mitigating measures are executed.

A.H.:

If patient is thirsty, he is advised to use decoction of pippali & shunthi.

Snehapana precipitates trishna and hence should be avoided in thirsty patient.

In absence of thirst, ghritapana by ghrita processed with yashtimadhu, pippali and shunthi is advised after meals.

Gandusha with sour liquids like kanji etc.

Nasya with ksheera sarpi

Dhoomapana – snigdha dhoomapana

Unctuous meat juice of wild animals mixed with food and drinks, which quench the thirst should be given to patient.

Talupaka (palatitis):

Rupa:

Sushruta:

Due to aggravated pitta, very painful and excessively severe suppuration develops on palate.

A.H.:

It discharges pus, if ruptured and this condition is called 'talupaka'.

Dosha: pitta

Sadhyasadyata: sadhya

Chikitsa:

Sushruta:

All pitta mitigating measures should be employed

A.H. / A.S.:

Pratisarana with kasis, rasanjana and madhu

Kavala with decoction of drugs having cold, astringent and sweet properties

Management of fully suppurated stage Ashtakruti bhedana: the abscess is incised in astakruti fashion and pus is drained out

Pratisarana with paste of drugs of tikshna and ushna dravyas

Kavala with vrusha, nimba, patola and other tikta dravya.

2. Brief Knowledge of Talupupputa, Adhrusha, Kacchapa, Talvarbuda, Mamsasanghata.

Talupupputa (salivary gland neoplasm / pleomorphic adenoma):

Rupa:

A painless, static swelling of the size of a kola (plum) is generated due to vitiation of kapha and meda.

Dosha: kapha

Dushya: meda

Sadhyasadyata: sadhya

A.H.: at talumadhya

Chikitsa:

Lekhana followed by pratisarana with maricha, ativisha, patha, vacha, kushtha, saindhava, musta mixed with madhu

Kavala with katuki, ativisha, patha, neem, rasna, vacha decoction

Dalhana: bhedana should be performed

Lekhana in mild growth

In big growth, bhedana followed by elimination of meda and other routine procedures like vranakarma etc.

Adhrusha (infected cavernous haemangioma):

A.H. / A.S. has not described adhrusha.

Rupa:

A reddish, fixed, hard edema is generated at talu with severe pain and fever.

This condition is called 'adhrusha'.

Dosha: rakta

Sadhyasadhyata: sadhya

Chikitsa:

Galasundika vata chikitsa

Chedana karma with mandalagra, if growth is big enough.

Pratisarana: powders of maricha, ativisha, patha, vacha, kushtha and aralu mixed with madhu and lavana.

Kavala: decoction of vacha, ativisha, patha, rasna, katuki, and nimba

Dhoomapana: panchangi varti is prepared by mixture of ingudi, kinihi, danti, trivruta and devadaru with plenty of aromatic drugs.

Yushapana: yavakshara processed mudga yusha.

Kachchapa:

Rupa:

A slowly emerging, raised and painless swelling appearing like tortoise, develops on talu. It is called kachchapa.

Dosha: kapha

Sadhyasadhyata: sushruta → sadhya
A.H. → asadhya

Chikitsa:

Galasundika vata chikitsa

Chedana karma with mandalagra if growth is big enough

Pratisarana: powders of maricha, ativisha, patha, vacha, kushtha and aralu mixed madhu & lavana.

Kavala: decoction of vacha, ativisha, patha, rasna, katuki and nimba.

Dhoomapana: panchangi varti is prepared by mixture of ingudi, kinihi, danti, trivruta and devadaru with plenty of aromatic drugs.

Yushapana: yavakshara processed mudga yusha.

Talvarbuda (kaposi's sarcoma / carcinoma of hard palate):

Rupa:

A lotus bud like swelling, having features similar to raktarbuda (like formation of masankura, shighra vridhi, paka, strava, aja samana rakta strava, bleeds on touch) is generated in the centre of talu due to vitiated rakta.

The condition is called 'arbuda'.

Dosha: sushruta: rakta
Bhoja: kapha, rakta
Sadhyasadhyata: asadhya

Chikitsa:
No treatment due to asadhya

Mamsa sanghata:

Rupa:
Due to aggravated kapha, a painless, fleshy mass develops at the end part of talu (A.H.: centre of talu) and the condition is called mamsa sanghata.

Dosha: kapha
Dushya: mamsa
Sadhyasadhyata: sadhya

Chikitsa:
Gala sundika vata chikitsa
Lekhana in mild growth, chedana in a big growth.
Pratisarana: powders of maricha, ativisha, patha, vacha, kushtha and aralu mixed with madhu & lavana
Kavala of decoction of vacha, ativisha, patha, rasna, katuki and nimba
Dhoomapana: panchangi varti is prepared by mixture of ingudi, kinihi, danti, trivruta and devadaru with plenty of aromatic drugs.
Yushapana: yavakshara processed mudga yusha.

Difference between mamsasanghata & mamsatana:

Mamsasanghata	Mamsatana
Painless	Painful
Fleshy mass develops	Pendulous swelling
Due to kapha dosha	Tridosha
Not fatal	Fatal
Sadhya	Asadhya
Not obstructs the throat	Obstructs the throat
Vagbhata has described	Vagbhata has not described

3. Knowledge of Cleft palate, palatitis, uvulitis and tumours of the palate.

Cleft palate:

Definition:

A congenital defect of the palate in which a longitudinal fissure exists in the roof of the mouth, often associated with cleft tip.

Causes:

Most of the cases – unknown

Medications mother taking during pregnancy

Some drugs like anti-seizure, anti-convulsant

Viruses & other toxins

Risk factors:

Family history

Exposure to certain substance during pregnancy (like cigarette, alcohol)

Having diabetes

Symptoms:

Lip doesn't close completely

Roof of the mouth doesn't close completely

Difficulty in sucking

Complication:

- Difficulty in speaking
- Difficulty in swallowing
- Difficulty with feeding
- Chronic ear infection
- Nasal speaking voice

Diagnosis:

Diagnosed during pregnancy during a routine USG

May be seen during the 1st examination by baby's healthcare provider.

Treatment:

Both cleft lip & cleft palate can be fixed with surgery cleft lip-surgery done between 3 – 6 months of age cleft palate-surgery done between 1 – 14 months of age.

Surgery:

Palate repair surgery

It is usually done when baby is 6 – 12 months old.

The gap in the roof of the mouth is closed & the muscles & the lining of the palate are re-arranged

Wound is closed with dissolved stitches.

Done under general anaesthesia

Additional surgery:

Repair a cleft in the gum using a piece of bone (a bone graft) – usually done at around 8 – 12 years of age

Improve the shape of nose (rhinoplasty)

Palatitis:

Definition:

Inflammation of palate is termed as palatitis.

Etiological factors:

Infection: bacterial, viral and upper respiratory tract infections

Allergic reaction: it can be the result of an allergic reaction to food or even an insect sting.

Hereditary: a cleft lip or cleft palate is a congenital trait which affects the roof of the mouth.

Breathing of chemicals

Symptoms:

- Swelling of the hard and soft palate
- Redness
- Irritation
- Itching
- Difficulty in swallowing

Signs:

- Sore throat
- Swollen tonsils
- Nasal regurgitation
- Voice may be affected in some cases

Diagnosis:

- Haematological examination
- Culture and sensitivity test
- X-ray

Treatment:

Antibiotics: in case of bacterial infection antibiotics are prescribe

Steroids: these can help to reduce the swelling, pain and redness

Anti allergic drugs: in the case of an allergic reaction, an antihistamine may be used.

Uvulitis:

Definition:

Inflammation & oedema of uvula

More commonly manifest with others inflammatory disease of oropharynx – epiglottitis, pharyngitis.

Causes:

1. Infective: most commonly, haemolytic influenzae, type B & group A streptococcus
2. Non-infectious: trauma, allergy, inhalant irritation

Clinical features:

Throat pain

Dysphagia

Fever

Uvula enormously enlarged, erythematous & congested

Differential diagnosis:

Epiglottitis

Streptococcal pharyngitis

Investigation:

DLC shows neutrophilia

Culture and sensitivity

Treatment:

Crystalline penicillin – IM

Amoxicillin and cloxacillin < 250mg

Tumours of the palate:

The hard palate creates a barrier between mouth and nasal cavity. A natural opening in the palate for nerves and blood vessels can create a passage way for a tumour to spread into the nasal cavity and maxillary sinus.

Early detection is possible as patient can observe it closely

Surgical management is the most successful regimen with appropriate reconstruction of the defect

Tumour thickness has found to be closely related to regional nodal metastasis

Typically presented in 50 – 60 yrs of age.

Palatal periosteum is a potent barrier for the tumour spread.

Etiological factors:

Reverse smoking (lightened part of the cigarette inside oral cavity)

Human papilloma virus

Tobacco and alcohol consumption

Betel nut & quid chewing

Kaposi sarcoma

Ill-fitting dentures

Long term immunosuppression

Symptoms:

CA of the palate usually is noticed first as an ulcer in mouth

At first, the ulcer is painless, but it later becomes painful

Mass grows, it can bleed

A foul odour in the mouth

Loose teeth

Changes in speech

Dysphagia

Inability to open the jaw

Diagnosis:

- Blood test
- X-ray or CT scan
- ENAB
- Punch biopsy
- Sentinel node biopsy
- PET scan
- MRI

Treatment:

Surgery

Primary external beam radiotherapy

Surgical excision with post operative radiotherapy

Brachytherapy

Photodynamic therapy

Chemotherapy

Extra topics that have been asked in exams:

Write the name of asadhya talu roga according to acharya sushruta:

1. Talu arbuda

KANTHA AND GALA GATA ROGA (DISEASES OF PHARYNX & LARYNX)**1. Detailed study of Etiology, pathology, classification, clinical features and management of - Tundikeri, Kantha shaluka, Gilayu, Galaganda, Swrabhedha, Galavidradhi.**

Acharya sushruta has described 17 kantha roga:

- | | | |
|-----------------------|----------------|------------------|
| 1. Vataja rohini | 7. Adhijihva | 12. Gilayu |
| 2. Pittaja rohini | 8. Valaya | 13. Galavidradhi |
| 3. Kaphaja rohini | 9. Balasa | 14. Swaraghna |
| 4. Sannipataja rohini | 10. Ekavrunda, | 15. Galaugha |
| 5. Raktaja rohini | vrunda | 16. Mamsatana |
| 6. Kantha shaluka | 11. Shataghni | 17. Vidari |

Among these vagbhata has not described adhijihwa, balasa, ekavrunda, mamsatana & vidari into kantha roga

Vagbhata added tundikeri, galarbuda, galaganda extra.

Tundikeri (tonsillitis):

Acharya sushruta has described into talugata roga.

Acharya vagbhata has described into kantha & gala gata roga

Sushruta:

Due to vitiation of kapha and rakta

A thick swelling associated with pricking pain, burning sensation and suppuration

This condition is called tundikeri

A.H.:

A hard swelling near hanusandhi of the size of karpasi phala (cotton) associated with mild pain and slimy.

Dosha: kapha, rakta

Sadhyasadyata: sadhya

Chikitsa:

Galashundika vata chikitsa

Bhedana karma should be done

Pratisarana: powder of maricha, ativisha, patha, vacha, kushtha and aralu mixed with madhu and lavana.

Kavala: decoction of vacha, ativisha, patha, rasna, katuki and nimba

Dhoomapana: panchangi varti is prepared by mixture of ingudi, kinihi, danti, trivruta and devadaru with plenty of aromatic drugs.

Yushapana: yavakshara processed with mudga yusha.

Kantha shaluka (adenoids):

Rupa:

An elevated, rough, dense and knotty swelling of size of plum (kolasthi) seed develops in throat.

It induces thorny or spike like irritation, pain and obstruction in throat and the condition is called 'kanthashaluka'.

Sushruta opines that it is manageable by surgery only

Dosha: sushruta: kapha

Charaka: tridosha

A.H.: kapha pradhana tridosha

Sadhyasadyata: Sushruta: only by surgery

A.H.: sadhya

Chikitsa:

Out of meals, one meal should be preparations of barley with ghrita in small amount.

If not relieved by raktamokshana, surgery similar to galasundika should be executed.

Chedana karma with mandalagra shastra not more, not less, 1/3 portion should be excised (dalhana: fully excision)

Gilayu:

Rupa:

A glandular, firm swelling; of the size of amalaki seed develops in throat

It is associated with mild pain and feeling as if a food bolus is obstructed.

Dosha: Sushruta: kapha & rakta

A.H.: tridosha

Curable with surgery only

Chikitsa:

Shastra chikitsa

Sushruta described bhedana karma but should follow chedana

A.H. described curable with medicines followed by svedana, lekhana, pratisarana, gandusha, nasya etc.

Galaganda:

Acharya vagbhata added galaganda into kantha roga.

Definition:

A limited, small or a big swelling which hangs from the front of neck; like a bilobed scrotum and enlarges gradually is called 'galaganda'.

Samprapti:

Vitiated vata and kapha along with meda get localised at manya and generate galaganda with their respective characteristic features.

Types:

1. Vataja galaganda
2. Kaphaja galaganda
3. Medoja galaganda

1. Vataja galaganda (simple goitre – iodine deficiency):

Rupa:

A rough, dense, gradually enlarging, black and reddish coloured swelling, which is fully covered by network of blackish veins; is generated.

It is accompanied by pricking pain, abnormal taste in mouth, severe dryness of palate & throat and it does not suppurate

Sadhya

Chikitsa:

Swedana followed by raktamokshana

Upanaha with tila, katu tumbi, atasi, priyala & shana

After the wound heals, lepa should apply many times

Shigru, tilvaka, tarkari, gajakrushna, punarnava, kala amruta, root of arka, flower karahata are ground in sura or kanji and lepa is applied to wound many times.

Tailapana: patient should daily take taila by oral route processed with guduchi, nimba, kutaja, hansapadi, bala, atibala, pippali and devadaru

2. Kaphaja galaganda (acute / subacute thyroiditis):

Rupa:

A static, skin coloured, associated with itching, cool in touch and heavy.

When fully developed, it induces coating to the palate and throat along with sweetness in mouth

Sadhya

Chikitsa:

All measures mentioned in vataja galaganda should be employed swedana and vimlapana should be frequently employed.

Lepa: ajaganda, ativisha, vishalya, vishalika, gunja, kushtha, alabu, shirisha should be macerated in palasha kshara

Tailapana: oil processed with vatsakadi gana mixed with Panchalavana should be taken orally.

Kapha mitigating dhooma, vamana, nasya should follow.

3. Medoja galaganda (massive goitre causing stridor):

Rupa:

A smooth, soft, pale in colour and painless swelling

Itching, stickiness in mouth

A continuous, unclear sound coming from mouth (stridor)

Growth or reduction in size of the swelling corresponds to that of body.

It exhibits characteristic features of kaphaja galaganda
Sadhya

Chikitsa:

Shiravedha at urumula (sternoclavicular joint) and kapha mitigating procedure.

Powdered heartwood of asanadi group of drugs mixed with cow's urine should be used orally daily in the morning.

If galaganda is not arrested by above mentioned remedies; on the contrary it increases, then surgery is indicated galaganda should be incised and all the fatty contents are extracted followed by suturing of the wound.

The galaganda will be asadhya if associated with following:

- Painful breathing
- Patient with general weakness
- Chronic more than one year
- Loss of appetite
- Change of the voice

Swarabheda:

According to Madhava nidana chapter 13 'swara bheda nidanam'.

Nidana:

- Speaking in high pitch
- Effect of poisons
- Studying or reading loudly
- Injury

Samprapti:

The above-mentioned etiological factors cause abnormal increase of vata and other doshas. These doshas in turn get lodged in the channels and organs responsible for production of voice and destroy the voice producing hoarseness of voice.

Types:

1. Vataja swarabheda
2. Pittaja swarabheda
3. Kaphaja swarabheda
4. Sannipataja swarabheda
5. Kshayaja swarabheda
6. Medoja swarabheda

Prognosis:

Swarabheda is incurable in persons who are very weak, aged and emaciated.

Swarabheda which is long standing or congenital, or that which occurs in persons who are obese and that which is produced by sannipataja swarabheda.

Galavidradhi (retropharyngeal abscess):

Sushruta:

The inflammation involving entire throat

It is associated with severe pain of tridosha.

It is caused due to vitiation of tridosha and features of all dosha as well as those of sannipatika vidradhi

Asadhya → sannipataja vidradhi

Shastra sadhya → gala vidradhi

A.H.:

The inflammation involving entire throat, develops and suppurates quickly.

It is associated with severe pain and discharges foul smelling pus

Dosha: tridosha

Sadhyasadyata: sadhya

Chikitsa:

Sushruta:

If the abscess is fully suppurated, it should be incised and drained only if it is not located in vital part (marma).

A.H.:

Lekhana is performed to induce blood letting

Pratisarana and gandusha should be with triphala, rasanjana, gairika, lodhra, saindhava, rakta chandana, pippali.

2. Brief Knowledge of Rohini, Galashotha, Kantharbuda, Kanthavidradhi, Galarbuda, Galaugham, Vrindam, Ekavrindam, Valaya, balasa, Shataghni, Swaraghna.

Rohini (pharyngitis & diphtheria):

Samanya samprapti:

When vata, pitta, kapha, individually or combinedly vitiate rakta which in turn vitiates mamsa and precipitate a sprouty muscular growth at the root of tongue inside the throat.

This growth is very dreadful and is entitled as asuhara i.e. fatal because it spreads very quickly obstructing the respiratory passage.

This condition is called 'rohini'.

Dushya: mamsa

Sadhyasadyata: vataja, pittaja, kaphaja: sadhya
Sannipataja, raktaja: asadhya

Types: 5

1. Vataja

3. Kaphaja

5. Raktaja

2. Pittaja

4. Sannipataja

Sharandhara added 6th medoja rohini

1. Vataja rohini (primary stage of diphtheria):

An extremely painful, sprouty muscular growth develops surrounding the tongue.

Causes obstruction of throat.

Associated with lot of complication of vata (like kampa, pain, stambha etc.)

This condition is called 'vataja rohini'.

Fatality – death within 7 days (bhoja) if neglected

Sadhya

Chikitsa:

Samanya chikitsa sutra:

In sadhya rohini roga, raktamokshana, vamana, dhoomapana, gandusha and nasya karma should applied.

Vataja rohini:

Raktamokshana

Followed by pratisarana with Panchalavana

Gandusha with sneha and lukewarm water.

2. Pittaja rohini (acute inflammatory stage – diphtheria):

Rupa:

Sprouty growth which emerges quickly with rapid inflammation and suppuration, high fever, burning sensation

Fatality: death within 5 days if neglected.

Sadhya

Chikitsa:

Pratisarana with rakta chandana, sharkara and madhu

Kavala with decoction of draksha and parushaka

Raktamokshana, vamana, dhumapana, gandusha, nasya

3. Kaphaja rohini (stage of complication respiratory diphtheria):

Rupa:

A firm, heavy growth

Which obstructs the respiratory channels

But suppurates slowly is called 'kaphaja rohini'.

Fatality: within 3 days if neglected

Sadhya

Chikitsa:

Raktamokshana, vamana, dhoomapana, gandusha, nasya

Pratisarana with ghruha dhuma and katuki

Nasya and kavala with oil processed with shweta, vidanga, danti and saindhava

4. Sannipatika rohini (stage of multiple complication diphtheria):

Rupa:

A deeply situated suppuration of dhatu which is uncontrollable by any measure and having features of all the three dosha is called 'sannipatika rohini'.

Fatality: immediate death

Asadhya

5. Raktaja rohini:

Rupa:

Studded with blisters

Pittaja rohini samana lakshana: sprouty growth which emerges quickly with rapid inflammation and suppuration, high fever & burning sensation.

Asadhya

Fatality: death in 5 days if neglected.

Chikitsa:

Pittaja rohinivat chikitsa

Raktamokshana, vamana, dhumapana, gandusha, nasya

Pratisarana with rakta chandana, sharkara & madhu

Kavala with decoction of draksha and parushaka

Galashotha:

Kashyapa has described it in vedana adhyaya of Kashyapa samhita.

It can include –

1. Kantha vedana
2. Galagraha
3. Kantha shotha

1. Kantha vedana:

ईषज्ज्वरोअरुचिग्लानिः कण्ठवेदनयाअर्दिते ।

- Mild fever
- Loss of appetite
- General weakness
- Neck pain

2. Galagraha:

ज्वरारुचिमुखस्रावा निष्ठनेच्च गलग्रहे ।

- Fever
- Loss of appetite
- Salivation
- Sigh

3. Kantha shotha:

कण्डुके श्वयथुः कण्ठे ज्वरारुचिशिरोरुजाः ।

- Itching & inflammation of throat
- Loss of appetite
- Fever
- Headache

All these features are characteristic of any infection in throat.

Galarbuda (carcinoma of base of tongue):

Rupa:

A static, red, painless and non suppuratory swelling; develops at the junction of root of tongue and throat is called 'galarbuda'.

Dosha: tridosha

Asadhya

Described by A.H. / A.S.

Galaugham (carcinoma of oesophagus):

Sushruta:

The vitiated kapha & rakta doshas produces a bigger swelling at the throat associated with high fever and obstruct the respiration, food & water intake (obstruct the movement of udana vayu at throat).

It is known as galaudha

Dosha: kapha & rakta

Asadhya

A.H.:

A bigger swelling occupying the inner and outer aspects of throat and resembling like 'argala' (bolt).

It is with high fever, heaviness of head, tandra and excessive salivation.

Vrunda (benign tumour in throat / neck space infection / acute pharyngitis):

Rupa:

Sushruta:

An elevated / raised, round swelling develops on the side of throat with intense burning sensation and high fever.

It is caused by vitiated pitta and rakta, presence of pricking pain indicated vata and rakta vitiation

This condition is called 'vrunda'.

Dosha: pitta & rakta

Vata & rakta if pricking pain is present

Asadhya

A.H.: suggested treatment like kaphaja rohini

Ekavrunda (chronic catarrhal pharyngitis / cervical lymphadenitis):

Rupa:

Sushruta:

A round, elevated, soft, heavy and non-suppurating inflammation associated with itching and burning sensation develops in throat.

It is caused due to vitiation of kapha and rakta

This condition is called 'ekavrunda.'

Dosha: kapha & rakta

Sadhya

Acharya vagbhata has not described ekavrunda.

Chikitsa:

Raktamokshana

Followed by various cleansing measures like shirovirechana, dhooma, lepa, kshara etc.
according to vitiated dosha.

Difference between vrunda & ekavrunda:

Vrunda	Ekavrunda
Sushruta:	
With high fever	Without fever
Without itching	With itching
At side of throat	At throat
Due to vitiated pitta & rakta or vata & rakta	Due to vitiation of kapha & rakta
Asadhya	Sadhya
No treatment	Raktamokshana followed by shirovirechana, dhooma, lepa, kshara etc.
A.H.	
Described	Has not described
Sadhya	Has not described
Kaphaja rohini vat chikitsa	-

Valaya (carcinoma of post cricoid region / carcinoma of larynx):

Rupa:

Sushruta:

A diffused, elevated swelling; which obstructs the food passage develops in throat due to kapha vitiation

It is uncontrollable / untreatable and the condition is called 'valaya'. (Valaya means bangle)

Dosha: kapha

Asadhya

A.H.:

Not very painful

Circular and elevated swelling

Balasa (complication due to laryngeal diphtheria):

Not described by A.H. / A.S.

Rupa:

It is caused due to severely aggravated kapha & vata.

A painful inflammatory swelling in the throat, which causes dyspnoea, injury to the vital spots and is difficult to treat us called as balasa.

Dosha: kapha & vata

Asadhya

Shataghni (malignancy of oropharynx / acute granular pharyngitis):

Rupa:

Due to vitiation of tridosha

A dense, wick like swelling.

Studded with multiple sprouty muscular growths

It obstructs the throat

Develops various types of severe pain and swelling

Resemble like granthi

Dosha: tridosha

Asadhya

A.H.:

Associated with severe thirst, fever and headache

It is as dangerous as an ancient weapon or a gun named 'shataghni' and hence entitled by the same name.

Swaraghna (vocal cord paralysis & immobility):

Rupa:

Kapha: occupies and obstructs the channels normally occupied by vata; precipitates constant dyspnoea

It is associated with hoarseness or loss of voice; dry and paralysed throat; and the condition is called 'swaraghna'.

The disease caused due to vata vitiation

Dosha: vata

Asadhya

3. Detailed study of Etiology, pathology, classification, clinical features and management of - Pharyngitis, Laryngitis, Tonsillitis & Adenoiditis

Pharyngitis:

Definition:

Inflammation of back of the throat known as the pharynx.

Oropharyngeal & laryngopharyngeal infection

Types:

1. Nonspecific:
 - a. Acute
 - b. Chronic
2. Specific:
 - a. Acute: Vincent's angina
Diphtheria
Fungus – thrush
Herpes
Glandular fever
 - b. Chronic: tuberculosis
Syphilis
Scleroma
Leprosy
Sarcoidosis
Granulomas

Acute pharyngitis:

It is a common infection & is similar to acute tonsillitis.

Etiology:

Common viral cold

Viral infection: rhinovirus, influenza, herpes simplex

Fungal infection: candida albicans

Bacterial: streptococcus, diphtheria, gonococcus

Exanthemata: skin rash

Pathology:

Congestion of lymphoid tissue as well as of the mucosa & its gland.

Clinical features:

- Discomfort in the throat
- Headache
- Malaise
- Oedema of soft palate & uvula
- Low grade fever in mild condition
- Enlargement of cervical nodes
- Pain in throat
- Mucopurulent discharge
- Dysphagia
- Ulceration

Diagnosis: culture of the throat swab.

Differential diagnosis:

Systemic disorder – pernicious anaemia, AIDS

Diphtheria

Exanthemata

Treatment:

1. General measures
Bed rest & soft diet are advised
Plenty of fluid
Warm saline gargles
Analgesics are advised to reduce pain
2. Specific treatment:
Streptococcal pharyngitis is treated with penicillin Guggulu
Erythromycin – 20 to 40 mg/kg body weight daily.

Chronic pharyngitis:

It is common disorder of the throat. It is characterized by hypertrophy of mucosa, mucous glands and subepithelial lymphoid tissue, which gives a granular appearance.

Types:

1. Chronic catarrhal pharyngitis
2. Chronic hypertrophic pharyngitis

Etiology:

Septic focus in the neighborhood – infection spreads from chronic rhinitis, sinusitis, tonsillitis and any dental sepsis causing hypertrophy.

Mouth breathing – entry of polluted air causes spread of infection through open mouth
Smoking, tobacco, alcohol, spicy food and faulty voice production also causes chronic pharyngitis.

Pathology:

Changes of inflammation & hyperplasia are seen in mucosa & submucosa
The mucous glands are hypertrophied & may become cystic

Symptoms:

- Irritation
- Cough
- Pain may be present
- Foreign body sensation in throat
- Tiredness of voice
- Vocal fatigue

Signs:

Catarrhal → general congestion may be present

Granular → posterior pharyngeal wall appears to be studded with granules

Follicular → single or multiple yellowish cysts may be present

Lateral band pharyngitis → lateral portion of pharyngeal wall

Atrophic pharyngitis

Investigations:

Haemogram

Radiograph of paranasal sinuses & chest

Throat swab

Treatment:

- Voice rest & speech therapy
- Causes of pharyngitis should be treated
- Chemical cautery
- Warm saline gargles
- Steam inhalation
- Electrocautery
- Tranquilizers
- Mandl's paint applied locally

Laryngitis: inflammation of larynx

Acute laryngitis:

Acute laryngitis is the most common cause of hoarseness and voice loss that starts suddenly. Most causes of acute laryngitis are caused by a viral infection that leads to swelling of the vocal cords.

The best treatment for this condition is to stay well hydrated and to rest or reduce your voice use.

Most acute laryngitis is caused by a virus, antibiotic is not effective.

Bacterial infections of the larynx are less rare than viral one and often are associated with associated dyspnoea.

Etiology:

Viruses: adeno virus, rhino virus, influenza virus

Bacteria: H. influenzae, streptococcus pneumoniae

Exanthemata

Irritation

Seasonal changes

Other respiratory tract infections like sinusitis, tonsillitis, bronchitis

Iatrogenic – intubation & Endo laryngeal surgery

Symptoms:

Hoarseness of voice / husky / weak / laboured speech / air leak

Painful speech

Cough – dry & irritating

Stridor

Fever, malaise, anorexia

Signs:

Congestion: vocal cord become congested,

Colour: pink to red

Oedema: may be present with severe infection

Exudate is sticky & mucoid initially

Movement of vocal cords may be hampered

Complication:

Dyspnoea, perichondritis

Treatment:

1. Local: voice rest
Steam inhalation
Endotracheal intubation
2. General: antibiotics: amoxicillin + clavulanic acid, azithromycin
Anti-inflammatory drugs
Steroids
Analgesics

Chronic laryngitis:

It is a common condition caused due to chronic irritation of the vocal cords.

Etiology:

Misuse or overuse of voice

Smoking, air pollution aggravates the condition

Secondary to infections of nose, paranasal sinuses and oral cavity.

Clinical features:

Discomfort in throat with foreign body sensation and spasm of cough is present.

Viscid mucus secretions will adhere to vocal cords causing constant hawking i.e., effort to clear the throat repeatedly.

Congested, edematous vocal cords are seen.

Colour changes from pink to red.

Diagnosis: indirect / direct laryngoscopy with biopsy.

Differential diagnosis:

Vocal nodules, polyps & benign tumours

Malignancy of vocal cord

Tubercular laryngitis

Vocal cord palsy

Leucoplakia

Gumma: soft, non-cancerous growth

Treatment:

Avoidance of irritating factors like smoking, alcohol, dust & fumes

Change of environment or place of work may help.

Voice rest & speech therapy

Steam inhalation, application of Mandl's throat paint.

Cough suppressants like codeine phosphate should be given

Medical and surgical treatment for benign tumours, nodules, polyps, tuberculosis etc.

Tonsillitis:

Definition: an inflammation of the two oval shaped pads of tissue at the back of the throat.

Types:

1. Acute
2. Chronic

Acute tonsillitis:

It is one of the most common infections encountered in everybody practice.

Etiology:

More common below 15 years of age, but adults can also be affected.

H. streptococcus is the commonest infecting organism.

Staphylococci, pneumococci or H. influenzae are some other organisms.

Upper respiratory tract infection, sinusitis, pharyngitis, ingestion of cold drink, pollution is some of predisposing factors.

Pathological types:

1. Acute follicular tonsillitis:

Red and swollen tonsils with yellowish spots of purulent material at the opening of crypts on the surface.

2. Acute membranous tonsillitis:

The exudation from the crypts coalesces to form a whitish membrane on medial surface which can be easily remove with a swab.

3. Acute parenchymatous tonsillitis:

Tonsils are so much congested and enlarged that they almost meet each other in midline along with oedema of uvula and soft palate. It causes obstruction to deglutition, respiration and interferes with speech.

4. Acute catarrhal or superficial tonsillitis

Symptoms:

Sore throat

Anorexia

Pain in throat during swallowing

Voice may be thick

Referred earache

Constitutional symptoms like malaise, fever, headache, Bodyache and tachycardia
Jugulodigastric nodes

Signs:

Tonsils become congested & swollen

Secretions increase & become tenacious

Halitosis (foul breath)

Hyperaemia of pillars, soft palate, and uvula

Jugulodigastric nodes get enlarged & tender

Differential diagnosis:

- Diphtheria
- Vincent's angina
- Peritonsillar abscess (quinsy)
- Tonsillar keratosis

Complication:

- Chronic tonsillitis
- Peritonsillar (quinsy) abscesses
- Parapharyngeal abscesses
- Laryngeal oedema
- Acute otitis media
- Septic focus
- Septicaemia

Treatment:

Bed rest

Antibiotic

Analgesics

Warm saline gargles

Predisposing factors must be completely treated.

Lozenges with local anesthetic action may be comforting.

Chronic tonsillitis:

It is the commonest chronic infection, characterized by recurrent acute attacks.

It occurs as a complication of acute tonsillitis.

Etiology:

Upper respiratory tract infection

Sinusitis, pharyngitis

Ingestion of cold drink

Pollution & crowded

Causative organisms: streptococcus, staphylococcus

Pneumococcus, H. streptococcus

Symptoms:

Recurrent sore throat

Pain

Cough

Irritation

Bad taste in mouth

Halitosis

Thick speech

Difficulty in swallowing

Signs:

1. Squeezing: squeezing the tonsil, pus may ooze out
2. Retention cysts may be occasionally seen on the surface of tonsil
3. Nodes: persistent enlarged jugulodigastric nodes is a significant sign

Treatment:

Nutritious diet & vitamin

Antibiotics

Analgesics

Treatment of any underlying pre-existing condition

Avoiding other etiological factors

Tonsillectomy

Complication:

- Peritonsillar abscesses
- Para pharyngeal abscesses
- Laryngeal oedema
- Acute otitis media
- Septic focus
- Septicaemia

Adenoiditis:

The adenoids are known as nasopharyngeal tonsil is a mass of aggregated lymphatic tissue situated posterior to the nasal cavity in the roof of the nasopharynx.

Adenoid undergo significant physiological hypertrophy upto 6 – 8 year of age and then the size decreases and they even may disappear completely in adulthood.

Etiology:

Age: between 3 – 10 years

Physiology: hypertrophy of naso-pharyngeal tonsil

Infection: TB

Predisposing factor: upper respiratory tract infection, sinusitis, pharyngitis, ingestion of cold drink, pollution

Clinical features:

Nasal obstruction:

- Mouth remains open, particularly at night
- Chest becomes flattened
- Pigeon chest
- Voice becomes flat & toneless
- Constant nasal discharge
- Hyponasal speech
- Recurrent acute otitis media, ASOM, CSOM
- Recurrent upper respiratory tract infection
- Occasional epistaxis
- Bronchial asthma & bronchitis
- Nocturnal enuresis & night terrors

Diagnosis:

- Posterior rhinoscopy with mirror
- Rigid / flexible nasal endoscopy
- X ray nasopharynx
- CT scan / MRI
- Adenoidectomy

Differential diagnosis:

- Nasal obstruction
- Orthodontic abnormality
- Thomwaldt's disease

Treatment:

1. Conservative:
Acute inflamed adenoids may be treated with antibiotics
Decongestants
Antihistamines
General improvement in health & hygiene
Breathing exercise
2. Surgical:
Adenoidectomy – surgical removal of adenoids

4. Brief Knowledge of foreign body in the throat, Carcinoma of Larynx & Pharynx, Dysphagia Diphtheria & diseases of salivary glands.

Foreign body in throat:

Foreign body in pharynx:

Sharp small foreign bodies like fish bones may pierce the tonsils.

Large sharp irregular foreign bodies may get stuck in the pyriform fossae.

Clinical features:

Pain

Pricking sensation

Dysphagia

Treatment:

1. Tonsillar foreign body:
It is removed by a nasal dressing forceps
Foreign body embedded in the tonsil; tonsillectomy may be required.
2. Laryngo-pharyngeal foreign body:
It is removed by direct laryngoscopy
Often the foreign body passes down to the stomach, but it may continue to give a foreign body sensation upto 24 – 48 hrs.
If foreign body sensation persist for more than 48 hrs. endoscopy is indicated.

Foreign body in larynx:

Large foreign bodies are incompatible with life

Small foreign bodies produce dyspnoea, hoarseness & coughing

Perichondritis & stenosis – if the foreign body stays for a long time

Treatment:

Slapping the back after hanging the head downwards may dislodge the foreign body.

Tracheostomy

Direct laryngoscopy

Antibiotics & steroids are administered

Foreign body in oesophagus:

Etiology:

Age: children can insert items like coins & small toys

Adult can swallow mutton bones

Elderly persons may not masticate food properly & large bolus can get stuck in the oesophagus.

Stenosis of the oesophagus or natural narrowing

Clinical features:

History of swallowing a foreign body.

Pain

Dysphagia

Investigation:

Plain radiographs: may reveal radio-opaque foreign bodies like coins, bones or wires of denture.

Radiography of barium swallow.

Complications:

- | | |
|----------------|---------------|
| • Dysphagia | • Perforation |
| • Oesophagitis | • Dyspnoea |

Treatment:

Oesophagoscopy: it is performed under general anesthesia for removal of the foreign body by using an oesophageal forceps.

Carcinoma of larynx:

Majority of the laryngeal carcinomas are squamous cell carcinoma (87 – 96 %) which form the majority of the laryngeal epithelium

Inhaled tobacco and chronic alcoholism are two of the most prominent etiological factors for tumour genesis.

It is 10 times more common in any part of the larynx but the cure rate is affected by the location of the tumour.

For the purpose of tumour staging, the larynx is divided into three anatomical regions

1. The glottis: most laryngeal cancers originate
2. Supraglottis: less common
3. Subglottis: least frequent

Laryngeal cancer may spread by direct extension to adjacent structures by metastasis to regional cervical lymph nodes, or more distantly through the blood stream.

Distant metastasis to the lung is most common distant spread.

Risk factors:

Smoking and alcohol

Gastro esophageal reflux disease (GERD)

Laryngopharyngeal reflux (LPR)

Genetic predisposition

Human papilloma virus (HPV)

Occupational exposure: asbestos, mustard gas & chemical product

Dietary & nutritional deficiencies

Laryngeal malignancies:

Squamous cell carcinoma

Adenocarcinoma

Acinic cell carcinoma

Adenoid cystic carcinoma

Fibrosarcoma

Chondrosarcoma

Liposarcoma

Clinical features:

The symptoms of laryngeal cancer depend on the size & location of the tumour.

Hoarseness or other voice changes / dyspnoea

Odynophagia (painful swallowing)

Otalgia

Hemoptysis

Stridor

Dyspnoea

Cervical lymph node enlargement

Fixation of the larynx

Distant metastasis: lung, liver, skull

Diagnostic evaluation:

- Tissue biopsy
- Indirect laryngoscopy
- Direct laryngoscopy
- Flexible fiberoptic laryngoscopy
- PET CT scan / CT scan
- MRI

Treatment:

Total laryngectomy

Treating the disease, preservation of laryngeal functions and rehabilitation

Treatment may involve: surgery, radiotherapy or chemo-therapy, alone or in combination

Carcinoma of pharynx:

Tumours occur in all 3 parts of pharynx namely the nasopharynx, oropharynx & laryngopharynx

Benign tumours of nasopharynx:

It is highly vascular benign tumour, which occurs in nasopharynx in adolescent males

Site:

Arise from the fibrovascular stroma on the posterolateral wall of the nasal cavity in the area of the sphenopalatine foramen.

Males between 1- 25 years

Clinical features:

Blocking of nose

Epistaxis

Posterior rhinoscopy: pink & red smooth mass

Anterior rhinoscopy – may reveal the tumours

Soft palate may bulge

Middle ear blocking of the eustachian tube.

Diagnosis: excision biopsy

Investigation:

- Radiotherapy
- Angiotherapy
- CT scan

Prognosis: recurrence after excision

Treatment:

Excision:

Lateral rhinotomy with transantral approach

Trans palatine combined with extra cranial incision

Intra cranial combined with extra cranial approach

Radiation: to reduce the vascularity of the tumour

Hormonal therapy

Malignant tumours of nasopharynx:

Etiology:

Age: between 40 – 70 years

Sex: male

Epstein: barr virus

Chemical agent

Site of origin: lateral wall, postero-superior wall

Clinical features:

Metastatic lymph nodes

Nasal obstruction

Epistaxis

Pain

Deafness

Torrer's traid: conductive deafness

Immobility & fixation of homolateral soft palate

Pain on the ipsilateral site of head

Diagnosis:

- Posterior rhinoscopy
- Nasopharyngoscopy
- Radiography
- CT scan
- Biopsy

Treatment:

Radiotherapy

Chemotherapy

Benign tumours of oropharynx:

Papilloma:

Pedunculated tumour may arise from the tonsil, palate

This may be single or multiple

Other tumours: very rare

1. Mixed salivary tumours
2. Lipomas, fibromas
3. Neurilemmomas
4. Hemangiomas

Treatment: excision

Malignant tumours of oropharynx:

Etiology:

Age: between 40 – 70 years, male

Smoking & tobacco chewing

Atmospheric pollution

Symptoms:

Pain is unilateral

Excessive salivation occurs

Blood-stained sputum

Foreign body sensation

Lock jaw

Investigation:

Biopsy

CT scan

Radiograph

VDRL test

Treatment:

Surgery has to be extensive, consisting of excision of tonsil, part of palate, part of tongue, half of mandible, block dissection of neck

Chemotherapy

Palliative treatment

Tumours of laryngopharynx:

Rare

Dysphagia:

Difficult in swallowing is called as dysphagia

Whereas painful swallowing is called as odynophagia.

The causes of dysphagia are broadly classified into:

1. Pre-oesophageal causes: occurring due to disturbance in the oral or pharyngeal phase of deglutition.
2. Oesophageal causes: occurring due to disturbance in the oesophageal phase of deglutition.

1. Pre-oesophageal causes:

Oral phase:

Disturbance in mastication: due to lock jaw, fracture of mandible, tumours of upper & lower jaw

Dry mouth syndrome

Paralysis of tongue, painful ulcer, abscess of tongue

Cleft palate, oronasal fistula

Stomatitis, ulcerative lesion, Ludwig's angina

Pharyngeal phase:

Tumours of tonsil, soft palate, pharynx, base of tongue

Acute tonsillitis, peritonsillar abscess, acute epiglottitis, oedema of larynx.

Paralysis of soft palate

Spasmodic condition like tetanus, rabies

2. Oesophageal causes:

Obstruction of lumen due to atresia, foreign body, stricture, tumours

Acute or chronic oesophagitis

Lesions of lumen

Cardiac enlargement, hiatus hernia, vascular rings

Investigations:

Detailed history, history about regurgitation, heart-burn etc.

Clinical & blood examination

X ray chest and barium swallow will reveal various lesions

Oesophagoscopy: it is very much useful for direct visualizing the condition as well as for biopsy.

Treatment:

To treat the cause.

Diphtheria:

Diphtheria is an upper respiratory tract illness caused by *Corynebacterium diphtheriae*, a facultative anaerobic gram-positive bacterium.

This disease occurrence has gone down dramatically with the effective implementation of immunization (DPT vaccine).

The disease exhibits from mild asymptomatic to potentially lethal toxic state of illness.

Primary site implicated are nasal cavities, pharynx and larynx

The clinical manifestation is attributed to exotoxins which are produced to the offending bacteria.

Incubation period: 2 – 7 days

Spread: droplet infection

Clinical features:

Headache, Bodyache, malaise, fever

Formation of greyish pseudo membrane in nasal cavity, pharynx and respiratory tract, the membrane removal led to hemorrhagic bed.

Blood-stained nasal discharge

Pain in throat which enhances in deglutition

Respiratory obstruction which may warrants intubation or tracheotomy

Cervical lymphadenitis

Possible complications:

Arrhythmias

Myocarditis

Toxic shock syndrome

Diaphragmatic paralysis

Diagnostic culture:

Isolation of *Corynebacterium diphtheriae* from throat culture.

Differential diagnosis:

Acute group A beta haemolytic streptococcal tonsillopharyngitis

Agranulocytosis

Epstein – barr infection

Vincent's disease

Management:

Procaine penicillin Guggulu given IM for 14 days

Erythromycin, clindamycin

Disease of salivary glands:

The 3 main pairs of salivary glands are:

1. Parotid glands
2. Sublingual glands
3. Submandibular glands

Diseases:

- Mumps / viral parotitis
- Acute suppurative parotitis (sialadenitis)
- Parotid abscess
- Chronic suppurative parotitis
- Salivary calculi
- Sjogren's syndrome
- Benign pleomorphic adenoma
- Malignant tumours
- Xerostomia

Extra topics that have been asked in exams:

Mamsatana (carcinoma of pyriform sinus):

Rupa:

A pendulous, painful and gradual enlarging swelling; which obstructs the throat; develops due to tridosha vitiation.

It is fatal in natural and the condition is called 'mamsatana'.

Dosha: tridosha

Asadhya

Vidari (carcinoma of tonsil & tonsillar fossa):

Rupa:

A red inflammation characterized by burning and pricking sensation with necrosed and putrefied, sudden and foul-smelling muscular tissue; develops in throat

Especially on the side in which patient usually sleeps

This condition is called 'vidari'

Dosha: pitta

Asadhya

Write the name of 2 cartilages of larynx:

9 cartilages: 3 paired & 3 unpaired

Unpaired: cricoid, epiglottis, thyroid

Paired: arytenoid, cuneiform, corniculate

Asadhya rogas by sushruta:

1. Swarghna
2. Valaya
3. Vrunda
4. Vidari
5. Balasa
6. Galaugha
7. Mamsatana
8. Shataghni
9. Sannipataja rohini
10. Raktaja rohini

SARVASARA MUKHA ROGA (GENERALIZED MUCOSAL AFFECTIONS OF THE ORAL CAVITY)

1. Detailed study of Etiology, pathology, classification, clinical features and management of Sarvasar mukhapaka

Acharya sushruta described 3 mukha roga:

1. Vataja mukhapaka
2. Pittaja mukhapaka
3. Kaphaja mukhapaka

A.H. / A.S. described: 8

1. Vataja mukhapaka
2. Pittaja mukhapaka
3. Kaphaja mukhapaka
4. Raktaja mukhapaka
5. Sannipataja mukhapaka
6. Arbuda
7. Urdhwaguda
8. Putivakrata

Vataja mukhapaka (herpetic stomatitis / aphthous stomatitis):

Rupa:

Sushtura / Ayurveda:

Full mouth associated with painful blisters

The vitiated vayu; localized in oral cavity; precipitates blisters, dry i.e., non-exudating and reddish coloured spreading ulcers with pricking pain throughout the oral cavity

Lips become coppery red, unsteady and peeled.

Tongue becomes thorny, heavy, cracked and does not tolerate cool items

There is difficulty in opening the mouth

Chikitsa:

Sushruta:

Pratisarana with Panchalavana churna

Nasya and kavala with oil processed with vata mitigating dravya

Snaihika dhumapana

A.H. / A.S.:

Pratisarana with pippali, lavana & ela

Kavala and nasya with oil processed with vatahara dravya

Nasya & gandusha with dashmoola, kakoli, rasna, madhuka and sariva

Snaihika dhumapana

Pratisarana with saindhava + pippali

Pittaja mukhapaka (aphthous ulcer / vincent's angina):

Rupa:

Sushruta:

In whole mouth burning sensation

Mouth is full of reddish & yellowish blisters

A.H. / A.S.:

Entire oral cavity is studded with red- or yellow-coloured slender eruptions with burning sensation

Feeling of heat locally, bitter taste in mouth and osha

The eruption exhibit pain similar to application of caustic alkali on wound.

The disease is called pittaja mukhapaka

Chikitsa:

Sushruta:

Shodhana of entire body with vamana, virechana along with siravedha should be done.

Followed by all pitta pacifying / madhura and sheetal remedial measures.

A.H. / A.S.:

In pittaja & raktaja mukhapaka treatment followed as raktapitta treatment

Gandusha with milk, sugarcane juice, water added with sugar.

Dugdhapana, kavala and nasya with processed with madhura gana dravya

Kaphaja mukhapaka (mild stomatitis / herpetic stomatitis):

Rupa:

Sushruta:

The entire mouth is studded with mildly painful, itchy and having colour similar to that of mouth / oral cavity.

A.H.:

Slimy blisters & associated with sweet taste in mouth.

Chikitsa:

Sushruta:

Pratisarana, gandusha, shodhana with vamana, siravedha, virechana, dhumapana etc.

Kapha mitigating procedures

Abhyantara chikitsa: cow's urine with powders of ativisha, patha, musta, devadaru, rohini,

katuki and kutaja fruits in the dose of 1 dharana (24 ratti) i.e., 750 mg should be given orally.

It induces virechana and also cures all kaphaja diseases.

A.H.:

Pratisarana with katu and lavana

Lekhana karma with shakapatra

Gandusha with shalmali, kshara & Gaumutra

Raktaja sarvasara:

Sushruta: sarvasara caused by vitiated rakta is similar to that caused by vitiated pitta.

A.H.: the characteristic features are similar to pittaja mukhapaka.

Chikitsa:

Pitta rakta nasaka chikitsa

Treatment same as pittaja mukhapaka

Shodhana of entire body with vamana, virechana, siravedha etc.

Madhura and sheetal remedial measures

Gandusha with milk, sugarcane juice, water added with sugar.

Dugdhapana, kavala, nasya with madhura gana dravya

Sannipataja mukhapaka:

Characteristics of all three dosha are observed in mukhapaka due to rakta & tridosha vitiation

Chikitsa:

In sannipatika sarvasara line of treatment is as per the predominance of dosha.

Lepa: rechana, kasisa & madhu, saurastrika (sphatika), rasanjana and mocharasa. These ingredients are mixed, boiled and kept in iron vessel till it is dried.

Lepa with these ingredients mixed with honey is advised.

2. Brief Knowledge of urdhvaguda, putivaktrata, mukharbuda

Urdhvaguda (halitosis (systemic causes)):

Rupa:

A.H. / A.S.:

When the regular downward movement of vayu i.e., apana vayu in the rectum is hindered by arsha, gulma, kapha etc.

It deviated its route, moves upwards and emits foul smell from mouth.

This condition is called as 'urdhvaguda'.

Asadhya

Putivakrata (halitosis (physiological & local condition)):

Rupa:

A.H. / A.S.:

Vata and other dosha getting vitiated in a person; who regularly avoids burning, nasya, dhumapana, gandusha and other cleansing measures

Generate foul smell in mouth and the condition is called putivakrata.

Chikitsa:

Shodhana: systemic cleansing by vamana after snehana, swedana and local cleansing by teekshna nasya and dhumapana.

Mukhadhavana with decoction of powders of samanga, dhataki, lodhra, Phalini and padmaka

Pratisarana with churna of samanga, dhataki, lodhra, Phalini and padmaka

Nasya karma with anutaila or taila processed with kalka or kwatha of madhura and jivanti dravya.

Mukharbuda (carcinoma of buccal cavity):

Rupa:

A.H. / A.S.:

The vitiated and localized kapha precipitates such an arbuda; which recurs in spite of scrapping, excising or squeezing; on the inner side of cheek.

It is blackish or whitish in colour and is entitled as 'mukharbuda'.

Chikitsa:

Chedana: newly and not well developed arbuda should be excised with mandalagra shastra.

Followed by pratisarana with sarja kshara and sunthi mixed with honey

Gandusha is performed either with decoction of nimba and guduchi alone or after adding honey and oil

Nasya, abhyanga, kavala with teekshna taila

Ahara: daily boiled yava

3. Detailed Knowledge of Stomatitis.

Stomatitis:

Stomatitis is inflammation inside the mouth, sore can be in the cheeks, gums, inside of lips or on the tongue.

Two main forms of stomatitis 1. Herpes stomatitis 2. Aphthous stomatitis

Aphthous stomatitis:

It is also known as recurrent aphthous stomatitis (RAS)

It is a common disease in which painful, recurrent, superficial ulcers are seen on movable oral mucosa.

Etiology:

It is unknown but various factors like viruses, endocrine disturbance, psychosomatic factors, habitual constipation, autoimmune reactions and vitamin deficiencies etc. responsible for aphthous ulcers.

Clinical features:

There are two distinct types:

1. Minor aphthous ulcer

Less than 1 cm

Well-marked white ulcer with a surrounding erythematous halo

Usually last for 6 – 10 days & heals without scarring

Pain is out of proportion of size of the ulcer.

Both single & multiple forms are found

Oral mucosa is conspicuously mobile

Common site is tongue, lip, mucosa, floor of oral cavity and cheek mucosa.

2. Major aphthous ulcer:

More severe

Greater than 1 cm & heal with scarring

Last for more than 6 weeks to months

Hard palate & anterior pillar are more common location

Management:

Topical application of tetracycline followed by cortisone ointment.

Cauterization with 10% silver nitrate

Topical tetracycline mouthwash – 250 mg in 50 ml of water 4 times a day for 5 – 7 days

Topical lignocaine viscous for relieving pain

Herpetic stomatitis:

Human herpes virus (HHV) infections are common in the oral cavity. They may be primarily or recurrent infections.

It is caused by herpes simplex virus (HSV-1).

The primary infection affects the children whereas secondary or recurrent herpes affects the adults.

In recurrent herpes the virus remains dormant in the trigeminal ganglion and travels along the peripheral sensory nerve to involve oropharyngeal mucosa, when gets activated.

Precipitating factors in adults: emotional stress – strain, fatigue, pregnancy, difficult immunity etc.

Prodromal symptoms:

Fever, malaise, nausea, vomiting, cervical and submandibular lymphadenopathy are present 1 – 2 days prior to local lesions.

Clinical features:

Clusters of multiple vesicles are seen which will soon rupture to form ulcers in the oral cavity especially on lips, gingivae, hard palate etc.

Several lesions coalesce together forming large irregular lesions

Mouth becomes painful

In severe cases, lips may become hemorrhagic and matted with serosanguinous fibrin like exudate which causes severe pain during speaking and swallowing becomes difficult.

Management:

Topical anesthetics like lignocaine and anti-infective agents like 0.2% chlorohexidine gluconate should be given along with other symptomatic treatment.

Antiviral treatment: tab. Acyclovir 1000 – 1600 mg daily in divided doses for 7 to 10 days

Maintenance of oral hygiene.

Acyclovir 5% and penciclovir 1% cream should be used.

MISCELLANEOUS DISEASES

1. National Programme for Prevention and Control of Deafness.

National programme for prevention and control of deafness.

Hearing loss is the most common sensory deficit in human today.

As per WHO estimates in India, there are approx. 63 million people, who are suffering from significant auditory impairment, this places the estimated prevalence at 63% in India population.

NPPCD was launched with a purpose of early identification diagnosis and treatment of ear problems responsible for hearing loss and deafness.

With such a large number of hearing-impaired young Indians, it amounts to a severe loss of productivity, both physical and economic.

This programme is being implemented by ministry of health and family welfare.

NPPCD was initiated on pilot basis in the year 2006 – 07 covering 25 districts of 10 states and 1 union territory and has been expanded to 228 districts of 27 states in a phased manner till now.

Objectives of the programme:

To prevent avoidable hearing loss on account of disease or injury.

Early identification, diagnosis and treatment of ear problems responsible for hearing loss and deafness.

To medically rehabilitate persons of all age groups, suffering with deafness

To strengthen the existing inter-sectorial linkages for continuity of the rehabilitation programme for persons with deafness.

To develop institutional capacity for ear care services by providing support for equipment, material and training personnel.

Strategy:

To strengthen the service delivery for ear care.

To develop human resource for ear care services

To promote public awareness through appropriate and effective IEC strategies with special emphasis on prevention of deafness.

To develop institutional capacity of the district hospitals CHC and PHC selected under the programme.

Components:

1. Manpower training and development: for prevention, early identification and management of hearing impaired and deafness cases, training would be provided from medical college level specialists (ENT & audiology) to grass root level workers.

2. Capacity building: for the district hospital, CHC, PHC in respect of ENT / audiology infrastructure.
3. Service provision: early detection & management of hearing and speech impaired cases and rehabilitation at different levels of health care delivery system.
4. Awareness generation through IEC / BCC activities: for early identification of hearing impaired, especially children so that timely management of such cases is possible and to remove the stigma attached to deafness.



THANK YOU