

Module III

Ayurveda

The traditional system of Indian medicine

I. History :

Ayurveda owes its name to two Sanskrit words:

Ayus -meaning life

Veda- meaning knowledge

Ayurveda originated around 5000 bce(before common era) .It then existed in oral traditions.

It continued through Indus Valley Civilizations, Vedic period, Jain and the Buddha period.

Ayurveda derived its notion from Rg Veda but practice from Atharva Veda

Ayurveda is called Upaveda or auxiliary knowledge.

Ayurveda is also called the Pancam-Veda or the fifth Veda.

II. Difference between Atharva Veda (which contains 114 hymns on magical cure of diseases) and Ayurveda:

1. As regards cause of disease:

Atharva Veda stresses on wrath of God and influence of malefic agents.

Ayurveda emphasise on imbalance of bodily elements.

2. As regards treatment:

Atharva Veda suggests appeasement of God and other agents

Ayurveda

~~Ayurveda~~ stresses on application of drug.

III. Philosophy of Ayurveda

It is based on Samkhya and Vedanta philosophy of the Vedic Hindus. It accepts

- That man is a part of the cosmic existence. Each individual soul is composed of mind, sense organs and material body.

- That all material body are evolved from interaction of PURUSHA (static but conscious) and PRAKRITI(dynamic but material).
- PRAKRITI is the substratum of three elementary components gunas of creation, viz
- Sattva(intelligence),
- Rajas(energy) and
- Tamas(matter).
- Sattva is white and is like nectar and gives joy; rajas is red and is like intoxication and gives pain, tamas is dark and is like poison and produces unconsciousness.

Ayurveda says this material body is composed of gross elements in the form of *kala*(protective layer), *dhatu*(component matter), *mala*(eliminations),three *dosas* , *agni* (digestive fire) and *Kriya*.

- Diseases are a condition of body and mind which results due to imbalance of dosas /three fundamental elements which are generated in our body as waste products.
 - Pitta(bile)
 - Kapha(phlegm).
 - Vayu/Vata(wind)
- These are the three basic elements activating, sustaining, nourishing and maintaining the life principle.
- These three dosas corresponds to
- Vayu(gaseous substance),
- Tejas(fiery substance) and
- Ap(liquid substance)
- of Panca-bhutas ,of which each and everything in this universe is made of:
 - khitis (earth)
 - ap (water)
 - tejas (fire)
 - vayu (air) and

- akash (ether)

IV. Legends about transmission of medical knowledge

Gods>>>Sages>>>two mythological personages:

1. Punarvasu Atreya: led to medicine school of Ayurveda.
2. Dhanvantari : led to surgery school of Ayurveda

V. Categories of Ayurveda

Ayurveda divides medical science into eight categories:

Kayacikitsa-treatment of diseases affecting the whole body

Kaumarabhrtya-treatment of children and females.

Salya-tantra- surgical techniques and extraction of foreign bodies.

Salakya-tantra-treatment of ailments affecting ears, nose, eyes, mouth etc(ENT)

Bhutavidya-treatment of mental disorder ,pacification of possessing spirits

Agada-tantra- treatment of bites of poisonous snakes etc and also herbal and other poison cases(TOXICOLOGY)

Rasayana-tantra- Rejuvenation, increase in life span, vigour, intellect, prevention of diseases.

Vajikarana-means of increasing virile powers.

VI. Principal Texts on Ayurveda

(A) Susruta-Samhita(6th century bce)

- One of the greatest treatise on Indian surgery, written by Susruta,
- Belongs to Divodasa-Dhanvantari school.
- Redaction on this was done by Buddhist scholar Nagarjuna(2nd century ce).
- A 12th century commentary on Susruta –Samhita is Nibandha –Sangraha , done by Dallanacarya.

- Susruta treatise has 5 Sthanas(books): Sutra, Nidana, Sarira, Cikitsa and Kalpa.
- The sixth sthana is a supplementary work called Uttaratantra, in which subjects like Salakya-tantra, Kaumarabhrtya and Bhutavidya are taken up.

B) Caraka-Samhita (between 2nd century bce and 2nd century ce)

Written by Caraka and redaction done by Drdhabala(9th century ce).

This belongs to Atreya school dealing mainly with therapeutics.

A 15th century commentary was done by Sivadasa.

Caraka-Samhita was translated to many regional languages and even to foreign languages.

Caraka treatise is divided into 8 sthanas(books), namely : Sutra, Nidan, Vimana, Sarir, Indriya, Cikitsa, Kalpa and Siddhi.

VII. Other Texts on Ayurveda

Other works on Atreya school were

Agnivesha tantra by Agnivesha,

Bhela Samhita, believed to be written by Atreya himself.

Both are now extant.

Ayurveda-Dipika, composed by Cakrapanidatta(11th Century).

VIII. More on the Samhitas

Each of these two Samhitas deal with Anatomy, Physiology, Toxicology, Psychic Therapy, Personal Hygiene and Medical Ethics.

In their treatise, Both Caraka and Susruta discussed the following for the treatment of a suffering patient.

- The organism(Sarira)
- Means of maintenance(Vritti) i.e proper conduct both mental and physical

- Causes of diseases
- Nature of pain and disease
- Action(**kriya**)
- Effect(**karma**) i.e restoration of patient to his normal state
- Time(**kala**), with due regards to influence of seasons in persons mind and body.
- Agent(**katri**), the physician and his associates
- Means and instruments(**karana**)
- Prescription.

IX. Ways of Inspection

To diagnose illness in a patient, Ayurveda suggests eight ways of inspection:

1. Nadi(pulses), 2. Mootra(urine), 3. Mala(stool), 4. Jhiva(tongue), 5. Shabda(sound),
6. Sparsha(touch), 7. Druk(vision), 8. aakruti(appearance)

X. Treatment

According to both **Caraka** and **Susruta**, Ayurvedic treatment depends on factors like :

Purusha (patient), Vyadhi (disease), Osadhi (medicine), Kriya (process), Kala (season and climatic factors as well as time and frequency of medicine or process applied.)

XI. Osadhi (medicines)

A) Ayurveda classifies drugs into two types:

- Those cure diseases
- Those give strengths

B) Drugs in Ayurveda come from mainly three sources :

- Plant origin
- Animal Products
- Minerals

Ayurvedic medicines are generally compounded with bases like *ghrta* (clarified butter), *taila* (oil), water and *milk*.

The preparation of medicines play a very important role in Ayurveda, with full reference to the tastes, potency, inherent efficiency and reactionary properties of the raw materials.

According to Caraka, a medicine has to be administered after taking into full consideration of patient's age, physical condition, digestive power, state of dosas and blood condition.

XII. Kriya

Kriya are the processes involved in treatment aim at correction and pacification of deranged dosas. The four processes as suggested by Caraka are,

- **Ahara** (proper diet): Eating food and drink agreeing with constitutional element of the patient.
- **Acara** (right conduct and medical regimen): observing hygienic rules like washing face and feet, bathing, nail cutting, hair trimming etc and correct code of conduct like correct posture of sitting, regulating sex life etc
- **Samsodhana**: done to rectify the deranged dosas. Some processes for cleaning up the accumulated dosas are use of purgatives, use of emetics, blood letting etc. Fasting and massaging are also suggested.
- **Samsamana**: administration of medicines to neutralise imbalance of dosas.

XIII. Surgical Processes :

Surgical processes as indicated in **Susruta-Samhita** consists of three stages:

- **Purvakarma** (preparatory measures), consisting of fasting or light food for the patient on day or days before the surgery, keeping surgical instruments ready, placing the patient in a suitable posture on the bed or table,etc.
- **Pradhanakarma**(principal measure), consisting of surgical operation, expulsion of morbid matter, application of medicinal pastes, bandaging etc.

- **Pascatkarma** (post operative measure), applying paste or medicine on the operated part, bandaging, etc. A great emphasis is given on this part as it relates to healing

There are eight principal types of surgical operations that are included in Ayurveda.

- (a) Chedana (excision)
- (b) Bhedana (incision)
- (c) Lakhana (scraping)
- (d) Esana (probing)
- (e) Vedhana (puncturing)
- (f) Arahana (extraction)
- (g) Visramana (draining of fluids) and
- (h) Sivana (suturing).

24 other processes are associated with operation. These include different methods of pulling out the extraneous matter; injecting into or filling a cavity; cleaning or draining a body canal; cleansing the wound etc.

XIV. Medicinal Plants :

India, with its ecological, geographical and climatic diversities is perhaps the richest nation with herbal medicinal wealth. In India the therapeutic use of herbal plants dates back to the Vedic period. Today the entire world acknowledges the process of preparation of medicines from plant origin.

The Rig Veda has documented about 67 medicinal plants, Yajur Veda 81 species and Atharva Veda 290 species. To cite a few:

Name	Part Used	Medicinal Use
Amla	Fruit	Vitamin C, Cough, Cold, Diabetes, Laxative and Hyper-acidity

Aswagandha	Root, Leaves	Restorative tonic, Stress, Aphrodisiac
Bramhi	Whole plant	Memory enhancer, mental disorder
Chiraita	Whole plant	Skin disease, burning sensation, fever
Guggul	Gum Raisin	Arthritis, Paralysis, Laxative
Sandalwood	Oil, Heart Wood	Skin disorder, burning sensation, jaundice
Sarpagandha	Root	Hypertension, Insomnia
Tulsi	Leaves, seeds	Cough, Cold, Expectorant
Peppermint	Leaves, flower, oil	Digestive, Painkiller
Vringraj	Seed, Whole plant	Anti-inflammatory, digestive, hair tonic
Neem	Rhizome	Sedative, Analgesic, Epilepsy, Hypertension
Nagchampa	Bark, Leaf, Flower	Vomiting, Dysentery, Piles

Architecture, ship building, international trade, mining and agriculture in Ancient India

I. Introduction :

- The people of ancient India were well versed with what we today call Architecture, Engineering and Technology
- The proof of such knowledge can be seen in:

Remains of Mohenjo-daro,,Harappa

Literature sources like Kautilya's Arthashastra and many more

Religious monuments like Buddhist Stupas, Lingaraj temple

Historical monuments like Ajanta & Ellora, Taj Mahal etc

II. Indus Valley Civilization (3000-1300) bce

- This was the Bronze age. The remains of this era have been unearthed at Mohenjo-daro and Harappa-now in Pakistan, Lothal- in Gujrat, Kalibangan in Rajasthan. Highlights of the then cities were:

Wide paved roads varying from 10m to 5.5m; alignment either north to South or east to west, crossing each other at right angles.

Houses were made from well burnt bricks of different sizes. Most had more than one floor. They had mastered the technique of load distribution. A typical house included a central courtyard, 4-5 living rooms, a paved bath and due provisions for sanitary amenities - a sewer pipe protected by brick ran beneath the floor into the public drains in the street.

Use of pulley wheel for drawing water from the wells was known

Well defined system of weights and measurements were in vogue. Graduated scales made of shell, bronze and ivory have been found. Tera-cotta plumb bobs and instruments for measuring angles of 45,90 & 180 degrees have also been excavated.