Surgical Specialities: Otorhinolaryngology and Neck Surgery

24 Questions

SBA

10 Questions: 50%

Q1 (A)

An unimmunised 2-year-old child is brought to the ED by her patents with a 1-day Hx of a sore throat. On examination the child is drooling, with noisy breathing and a temperature of 39.4C

What is the most likely causative organism?

```
A. Group C streptococcus
B. Haemophilus influenzae type B
C. Moraxella catarrhalis
D. Neisseria meningitidis
E. Staphylococcus aureus
```

#37440

Answer: B. Haemophilus influenzae type B - TRUE

- The child in this scenario has acute epiglottitis
- Acute epiglottitis tends to present with a rapidly progressive sore
  - In the late stages, the patient may have associated inspiratory stridor
- The child will be toxic, with a raised temperature and tends to sit forward in the tripod position and drool
- Peak incidence is between 2-7 years

Notes

- All the bacteria listed are known to cause acute epiglotittis
  - However, some are more common in adults
- The comment cause in children has classically been *Haemophilus influenzae type B* (HIB)

    - Accounting for approximately 90%
    - However, incidence has decreased due to **vaccination**
- Currently the commonest cause in children is *Group A beta-haemolytic streptococcus*
- The most likely cause in this cases is *Haemophilus inflenzae type-B* as the child has **not been immunised**

Q2

A 3-year-old boy presents to the ED with a severe sore throat, temperature of 38.7C and noisy breathing. The child is sat forward and drooling.

What is the most import first step you should perform in the management of this child?

```
A. Examination of the oropharynx
B. Flexible laryngoscopy
C. IV access and blood cultures
D. IV antibiotics
E. Urgently call the paediatric anaesthetist
```

#37441

Answer: C. IV access and blood cultures - FALSE

E. Urgently call the paediatric anaesthetist - TRUE

- This child has acute epiglottitis
- Acute epiglottitis tends to present with a rapidly progressive sore
    - In the late stages, the patient may have associated inspiratory stridor
- The child will be toxic, with a raised temperature and tends to sit forward (in the tripod position) and drool

Notes

- The loose connective tissue swelling in the epiglottis can occlude the airway and care must be taken to avoid this
- **Any** attempts to examine the child, including simple cannulation *can precipitate laryngospasm and airway occlusion*
- There the **most important** step in managing this patient is to get the help of someone with experience in managing children's airways

Q3 (A)

A 13-year-old boy presents to the emergency department. He is known to have chronic suppurative otitis media. He has a severe headache, fever and otorrhoea. He reports altered taste. On examination, he has pain on lateral rotation of the neck, and tenderness and oedema over the right mastoid. He is tachycardic.

What is the most likely complication of chronic suppurtative otitis media that he has?

```
A. Cortical thrombophlebitis
B. Extra-dural abscess
C. Lateral sinus thrombosis
D. Meningitis
E. Subdural abscess
```

#37442

Answer: E. Subdural abscess - *FALSE*

C. Lateral sinus thrombosis - **TRUE**

- All of the conditions listed are known complications of chronic supporative otitis media
  - And all can cause headache, fever and otorrhea
- Lateral sinus thrombosis causes:
  1. Papilloedema
  2. Raised intracranial pressure (ICP)
  3. Tenderness and oedema over the mastoid process (*Griesinger sign*)

Notes

- If the thrombosis extends into the jugular bulb and internal jugular vein, then
  - This can result in neck pain on rotation
- Compression of CN IX, X and XI can also occur
  - This would alter the patient's taste in the posterior 3rd of the tongue - due to glossopharyngeal nerve (CN IX) compression
  - Can result in tachycardia - due to vagus nerve (CN X, *pneumogastric*) compression

Definition *Griesinger Sign*

- Erythema and edema over the posterior part of the mastoid process
- Due to septic thrombosis of the mastoid emissary vein

- Indicating thrombophlebitis of the sigmoid sinus

Q4 (A)

A 13-year-old boy, known to have sinusitis, presents to the ED with severe pain over the right side of his nose and right cheek. Over the last 24 hrs he has developed a fever and blurred vision. On examination he has tenderness, erythema and induration over the right cheek and around the eye, which is bulging.

What is the most likely complication of sinusitis that he has developed?

```
A. Cavernous sinus thrombosis x
B. Meningitis
C. Orbital cellulitis x
D. Osteomyelitis
E. Subperiosteal abscess
```

#37443

Answer: A. Cavernous sinus thrombosis - *FALSE*

C. Orbital cellulitis - TRUE

- **All** of the conditions listed are complications of acute sinusitis
- The thin walls of the sinuses and the fact that the sinuses all share a boundary with the orbit
  - Predispose patients with acute sinusitis to developing them
- Orbital cellulitis causes:
  1. Erythema
  2. Induration
  3. Tenderness over the orbit

Notes

- The key features that would make you suspicious of it being more advanced that a pre-septal cellulitis are:
  1. Proptosis
  2. Conjunctival oedema (*chemosis*)
  3. Loss of colour differentiation
- A CT scan of the orbits and sinuses would confirm the extent

Q5 (A)

A 53-year-old female presents to the ENT clinic with fatigue, a dry mouth and eyes and, repeated episodes of oral thrush. She is on *etanercept* for rheumatoi arthritis (RA).

What is the most likely diagnosis?

```
A. Chronic recurrent sialoadenitis
B. Drug induced sialogemaly
C. Granulomatous sialodenitis
D. Primary Sjogren's syndrome
E. Secondary Sjorgen's syndrome
```

#37444

Answer: E. Secondary Sjorgen's syndrome - TRUE

- Sjogren's syndrome affects 3-4% of UK adults
  - Age of presentation is between 40-60 years
  - **NOTE**: 90% of cases occur in females
- Secondary Sjogren's is characterised by a co-exisiting connective tissue abnormality, most commonly RA
  - Etanercept is a TNF-alpha blocker used for rheumatoid arthritis

Notes

- Sjogren's presents with
  1. Xerostomia
  2. Xerophthalmia
  3. Fatigue
- May have repeated oral thrush secondary to lack of saliva

Q6 (A)

A 20-year-old male presents to the ENT clinic with increasing swelling at the anterior border of sternocleidomastoid (SCM). The swelling was initially pain-free, but is now painful, with an increase in size over the last week. Lymph node examination of the neck is normal. The swelling has no overlying punctum, and is not pulsatile.

What is the most likely diagnosis?

```
A. Branchial cyst
B. Carotid body tumour
C. Lymphoma
D. Pharyngeal pouch
```

```
E. Tuberculous lymphadenopathy
```

#37445

Answer: A. Branchial cyst - TRUE

- Branchial cysts are present at birth, but present usually between 15 and 25 years
  - When the potential space left from the second branchial arch growing down distends
- Males and females are *equally* commonly affected

Notes

- The swelling occurs at the anterior border of SCM and is usually painless
  - Unless it becomes infected, in which case it enlarges and becomes painful, as in this case

Q7 (A)

A 54-year old man, who underwent a parotidectomy six months ago, returns to clinic. He complains of flushing and sweating over the temple, cheek and upper neck prior to and during eating.

What is the most likely diagnosis?

```
A. Boerhaave syndrome
B. Brown syndrome
C. Edwards syndrome
D. Felty syndrome
E. Frey syndrome
```

#37446

Answer: D. Felty syndrome - *FALSE*

E. Frey syndrome - TRUE

- *Frey syndrome* is a known complication of parotidectomy with gustatory sweating due to inappropriate regeneration of sympathetic and parasympathetic nerve fibres

Notes

- *Boerhaave syndrome*: rupture of the oesophagus
- *Brown syndrome*: rare form of strabismus

- *Edwards syndrome*: trisomy 18
- *Felty syndrome*:
    1. Rheumatoid arthritis
    2. Splenomegaly
    3. Neutropaenia

Q8 (A)

A 40-year-old male presents to the ENT clinic with non-tender 3cm hard and rubbery mass just anterior and superior to the angle of the mandible. The skin overlying the mass is normal. The patient has drooping of the corner of the mouth on the affected side.

What is the most appropriate investigation for this patient?

```
A. Core needle biopsy
B. Excisional biopsy with frozen sections
C. Incisional biopsy
D. Trucut biopsy
E. Wedge biopsy
```

#37447

Answer: B. Excisional biopsy with frozen sections - TRUE

- The patient has a mass in the parotid gland
    - Involvement of the Facial Nerve suggests this lesion is more likely to be malignant

Notes

- The investigation of parotid lumps is controversial
    - Particularly of the lump shows no clinical signs of malignancy
- Some debate exists regarding ultrasound and fine needle biopsy
- The principle with regards to investigating these lumps is however that you **should not cut** into the lump
    - And risk spread by seeding along the tract
- Given that all the other types of biopsy listed would cut into the lump
    - Excisional biopsy is the *only* available option that does not risk spread

Q9 (E)

A 90-year-old on diuretics with ill-fitting dentures, presents to the emergency

department with a one-day history of pain and swelling of the left parotid, worse on speaking and eating. The patient has a temperature of 38.9C

Which bacteria is most likely to be responsible for this patient's symptoms?

```
A. Klebsiella pneumonia
B. Mycobacterium tuberculosis
C. Pseudomonas aeruginosa
D. Staphylococcus aureus
E. Streptococcus pneumoniae
```

#37448

Answer: D. Staphylococcus aureus - TRUE

- Commonest cause of acute parotitis is viral (**mumps**)
- Acute bacterial parotitis can occur
  - Particularly in neonates, and the elderly and debilitated

Notes

- Risk factors of acute bacterial parotitis
  1. Poor oral hygiene
  2. Dehydration
- Commonest bacterial cause is *Staphylococcus aureus*

Q10 (A)

A 52-year-old man recently arrived in the UK from Mexico presents to ENT clinic with a slow-growing, painless pulsatile lump in the anterior triangle of the neck, deep to sternocleidomastoid (SCM).

What investigation would be best to plan for surgical excision of this lesion?

```
A. CT
B. IV digital subtraction arteriography
C. MRI
D. USS
E. X-ray
```

#37449

Answer: D. USS - *FALSE*

B. IV digital subtraction arteriography - TRUE

- The patient has a carotid body tumour

- These are more common in Peru and Mexico

Notes

- CT, MRI and USS would be sufficient to see the tumour itself
- IV digital subtraction arteriography is superior
  - Allowing assessment of the cerebral circulation and any collaterals

EMQ

14 Questions: ??%

Theme: Lumps in the neck (A)

```
A. Thyroglossal cyst
B. Solitary thyroid nodule
C. Thyroid nodule in multinodular goitre
D. Cervical node metastasis
E. Branchial cyst
F. Cystic hygroma
G. Deep neck space abscess
H. Salivary gland swelling
I. Cervical lymphadenopathy
```

#3912

S1

A 33-year-old non-smoker who presents with a 6-month history of recurrent, intermittent left-sided neck swelling associated with pain and dry mouth. He can feel a hard mass in the floor of his mouth.

Answer: H. Salivary gland swelling - TRUE

- Hard mass in the floor of the mouth represents a stone in the submandibular gland

S2

A 25-year-old female presents with mild dysphagia and a palpable mass on the left of the midline.

Answer: E. Branchial cyst - *FALSE*

C. Thyroid nodule in multinodular goitre - TRUE

- Patients with a goitre are more liley to develop compression symptoms
    - Solitary thyroid nodules are *usually* small and non-functioning

S3

An 18-year-old smoker who presents with 10-day history of sore throat, right otalgia, dysphagia to liquids and tender swelling in the right side of the neck.

Answer: E. Branchial cyst - *FALSE*

G. Deep neck space abscess - TRUE

- The 18-year-old smoker is likely to have an infection

S4

A 12-month old girl who presents with an expanding neck mass, present since birth, now causing dysphagia and airway difficulties.

Answer: F. Cystic hygroma - TRUE

- Cystic hydromas are rare, congenital abnormalities of lymphoid tissue
    - They may expand rapidly causing life-threatening airway compromise
- Branchial cysts may enlarge periodically due to infection
    - They are **not** associated with airway difficulty

S5

An 11-year-old boy with a midline swelling which rises on tongue protrusion.

Answer: A. Thyroglossal cyst - TRUE

S6

A 54-year-old smoker who presents with a lump on the left side of the neck and enlarged left tonsil.

Answer: I. Cervical lymphadenopathy - *FALSE*

D. Cervical node metastasis - TRUE

- The 54-year-old smoker is more likely to have a carcinoma
- Tonsillar carcinoma is a common cause of cervical nodal metastasis
    - Unilateral enlargement always raises suspicion in smokers

S7

A 35-year-old heavy smoker who presents with bilateral sore throat, symmetrically enlarged tonsils and bilateral neck swellings.

Answer: D. Cervical node metastasis - *FALSE*

I. Cervical lymphadenopathy - TRUE

Notes

- Patient demographics are very important when making a diagnosis

Theme: Laryngeal cancer (A)

```
A. Total laryngectomy and neck dissection
B. Radiotherapy
C. Chemotherapy
D. Excision of vocal cord mucosa
```

#4017

S1

A 50-year-old man presents with a hoarse voice. Clinical examination and investigations reveal a small invasive carcinoma of the left vocal cord. The left vocal cord is paralysed and there is a 4-cm lymph node in the left anterior neck.

Answer: A. Total laryngectomy and neck dissection - TRUE

- The tumour stage is T3N2a
  - Partial laryngectomy is inadequate
  - Total laryngectomy combined with neck dissection is the surgical treatment of choice
- Radiotherapy may be given post-operatively
  - Chemotherapy is indicated for inoperable disease

S2

A 65-year-old man is found to have T1 carcinoma of the vocal cord. There is no involvement of the anterior commissure.

Answer: C. Chemotherapy - *FALSE*

B. Radiotherapy - TRUE

- Radiotherapy is as effective as surgery in the treatment of T1 tumours
    - However, the resulting voice quality is better than after surgery

S3

A 60-year-old woman is found to have a *carcinoma-in-situ* of the left vocal cord.

Answer: D. Excision of vocal cord mucosa - TRUE

- Close monitoring is also required

S4

A 55-year-old woman is found to have a glottic carcinoma involving the anterior commissure

Answer: B. Radiotherapy - TRUE

- In the UK most teams would opt for radiotherapy and close follow-up
    - With total laryngectomy as an option for failure after radiotherapy

S5

A 70-year-old woman with a large supraglottic carcinoma

Answer: A. Total laryngectomy and neck dissection - TRUE

- Nodal metastases are found in 55% of supraglottic tumours
    - Radial neck dissection is often required for large supraglottic tumours

Theme: Thyroid disease (E)

```
A. Total thyroidectomy
B. Hemi-thyroidectomy
C. Debulking surgery and radiotherapy
D. Radioiodine treatment
E. Enucleation
F. Radiotherapy/Chemotherapy
```

#4018

S1

A 25-year-old woman with Grave's disease who is thyrotoxic. Medical treatment

has failed to control her symptoms and she is hoping to start a family as soon as possible.

Answer: A. Total thyroidectomy - TRUE

- Grave's disease is initially treated medically with drugs
  1. Carbimazole
  2. Propylthiouracil (PTU)
- Total thyroidectomy carries the risk of damage to
  1. Superior laryngeal (SLN) and Recurrent laryngeal (RLN)
  2. Parathyroid glands
- Patients may become hyPO- or hyPERthyroid after surgery

S2

A 55-year-old woman presents with a swelling in her thyroid. Investigations have revealed it to be a lymphoma.

Answer: F. Radiotherapy/Chemotherapy - TRUE

- Lymphoma treatment
  - Stage Ia and IIa - Radiotherapy
  - Stage IIa to IVb - Chemotherapy

S3

A 45-year-old man presented with a lump in th right lobe of the thyroid. Fine needle aspiration has revealed it to be follicular in nature.

Answer: B. Hemi-thryoidectomy - TRUE

Theme: Congenital neck tumours (E)

```
A. Laryngocoele
B. Thyroglossal cyst
C. Branchial cyst
D. Desmoid cyst
E. Dermoid cyst
F. Lymphangioma
G. Chemodectoma
```

#4019

S1

A 55-year-old gentleman presented with a long-standing history of mild stridor and hoarseness that had suddenly worsened. On palpation a large soft swelling over the thyrohyoid membrane was felt; when pressure was applied, this swelling disappeared.

Answer: A. Laryngocoele - TRUE

- When the laryngeal saccule is expanded with air it is termed a laryngocoele
- These may spread superiorly
  - Presenting as a false cord (internal laryngocoele)
- Or may pass through the thyroidhyoid membrane
  - Presenting as a lump in the neck

S2

A 7-year-old girl presented with a painless cystic swelling anterior to the thyroid cartilage. The swelling was transilluminable, mobile in all directions and *moved on protrusion of the tongue*.

Answer: B. Thyroglossal cyst - TRUE

- A thyroglossal cyst is a fluctuant midline swelling
  - *Moves on tongue protrusion*
- It develops in cell nests in the thyroid gland's migration path

Theme: Auditory disorders (A)

```
A. Acoustic neuroma
B. Acute (serous) middle-ear media effusion
C. Acute suppurative otitis media
D. Barotraumatic otitis media
E. Carcinoma of the middle ear and mastoid
F. Cholesteotoma
G. Chronic (serous) middle ear fusion
H. Chronic suppurative otitis
I. Foreign body in the ear
J. Labyrinthitis
K. Meniere's disease
L. Otitis externa
M. Otosclerosis
N. Referred pain
```

O. Wax

#4541

S1

A 55-year-old man has been referred with a history of sudden onset of vertigo accompanied by nausea and vomiting that gradually subsided over 24-hours but left him unsteady for 3-weeks. On direct questioning, he has noticed a hearing loss in his left ear and a period of tinnitus before the attack of vertigo. After the attack he noticed that his hearing had become worse. On examination, the abnormal finding was a left-sided sensorineural hearing loss, confirmed on audiometry.

Answer: K. Meniere's disease - TRUE

- Prosper Meniere (1799-1862) was a French ENT specialist, assistant of Baron Dupuytren
- The condition he described is characterised by '3Ds'
  1. Deafness
  2. Dizziness
  3. Tinnitius (Din)
- All patients presenting with vertigo should have
  1. Imaging to exclude an acoustic neuroma
     - Diagnosis would be more strongly suspected if evidence of cranial nerve/cerebellar dysfunction coexisted
  2. Testing for syphilis
     - Neurosyphilis may present in this way and must be treated

S2

A 45-year-old man presents with a 1-year history of foul-smelling purulent discharge from the left ear and increasing deafness. On examination after removal of the discharge, an attic perforation is visualised which is occupied by a greyish substance. Radiography reveals a sclerotic mastoid.

Answer: H. Chronic suppurative otitis - *FALSE*

F. Cholesteotoma - TRUE

- This is a form of chronic suppurative otitis media
- As a result of a marginal or attic perforation
  - There is chronic infection of the
    1. Bone of the attic, antrum and mastoid process

    2. As well as the mucosa of the midle ear

- While the disease is less common that in pre-antibiotic times -It is an important disorder not to miss
- Cholesteotoma requires chronic treatment
    - Often including surgery (commonly mastoidectomy)
    - Numerous potentially serious extra- and intra-cranial complications

S3

A 20-year-old woman presents with a 1-year histoy of bilateral deafness and tinnitus. The deafness is worse on the left side and is less marked in places with background noise. The patient's father has worn a hearing aid since his late teens. On examination, the tympanic membranes are normal. Rinne's test is negative bilaterally, and Weber's test lateralises to the left side.

Answer: A. Acoustic neuroma - *FALSE*

M. Otosclerosis - TRUE

- This commonn disorder occurs in approximately 1/200 people (to some degree)
- It is common in women
    - Marked hereditary tendency in certain families
- Commonly presents between the ages of 18 and 30
- Pathology is one of excessive bone formation in the middle ear
- Leads to conductive deafness
    1. Rinne: negative when bone conduction is superior to air
    2. Weber: lateralises to the worse side
- Hearing is often improved in noisy places
    - So called *paracusis willisii*
- Note: tympanum appears normal in the majority of cases

S4

A 10-year-old child presents with rapid-onset, sever, right-sided otalgia and hearing loss following an upper respiratory tract infection. On examination, the right tympanic membrane appears red and bulges outwards.

Answer: Acute (serous) middle-ear media effusion - FALSE

C. Acute suppurative otitis media

- Taxonomy in this area is rather confusing, there being a variety of middle ear effusions described in terms of
    1. Duration: acute vs chronic
    2. Presence/absence of infection: unspecified = serous vs suppurative
    3. Other factors
        - Aetiology: e.g. acute catarrhal otitis media
        - Glue Ear: chronic serous otitis media
- Examination: tympanic membrane is retracted in all *except*
    1. Acute Suppurative Otitis Media: **bulging**
    2. Chronic Suppurative Otitis Media: perforated

Theme: Epistaxis (?)

```
A. Cocaine abuse
B. Foreign body
C. Haemophilia
D. Hypertension
E. Iatrogenic
F. Idiopathic
G. Malignant neoplasm
H. Hereditary haemorrhagic telangectasia (HHT, Oster's disease)
I. Pyogenic granuloma
J. Rhinitis
K. Thrombocytopaenia
L. Trauma
M. Wagner's granuloma
```

#4542

S1

A 2-year-old child presents with bleeding from one side of the nose. His mother had noticed a foul-smelling discharge from the nose on that side for some months. This had only temporarily responded to courses of antibiotics. Examination of the nostrils shows an inflamed mucous membrane and a blood-stained mucopurulent discharge.

Answer: B. Foreign body - TRUE

- This may present with bleeding from the nose in the presence of long-standing inflammation
- The history of a foul-smelling nasal discharge and the age of the child

should alert one to the diagnosis
    - Foreign bodies in the nose are commonest in children aged 2-3
- Treatment is by removal under general anaesthesia once inflammation is established as in this case
- If the problem is identified early
    - Various manoeuvres can be attempted in ED to blow out the offending foreign body

S2

A 25-year-old man presents with a history of chronic sinusitis and epitaxis over the past 3 years. On rhinoscopy he has nasal crusting with a small septal defect. On oral examination there is quite a marked gingivitis and tooth decay.

Answer: A. Cocaine abuse - TRUE

- In this case, the patient is likely to be a regular user of cocaine
    - Now one of the most common causes of recurrent epistaxis
- The diagnosis is strongly suggested by
    1. Septal defect
    2. Dental problems
    3. Sinus problems
    4. Young adult

Notes

- Commonest causes of epistaxis are:
    1. Idiopathic (nose picking)
    2. External trauma
    3. Rhinitis: allergic and infective
- Other causes may also be local or secondary to systemic disease
    - Especially blood dyscrasias
- Iatrogenic causes include
    1. Anticoagulant therapy
    2. Nasogastric tubes

Theme: Vocal problems: Dysphonia (A)

```
A. Acute viral/bacterial lartngitis
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B. Candidiasis of the larynx
C. Gastro-oesophageal reflux disease (GORD)
D. Hypothyroidism
E. Laryngeal carcinoma
F. Laryngeal papilloma
G. Neurogenic: left recurrent laryngeal nerve palsy
H. Neurogenic: right recurrent laryngeal nerve palsy
I. Neurogenic: superior laryngeal nerve palsy
J. Neurogenic: vagal nerve palsy
K. Singer's nodules
L. Spasmodic dysphonia
M. Trauma (external)
N. Tuberculous laryngitis
```

#4544

S1

A 28-year-old reports hoarseness especially in the morning. This resolved gradually during the day. There is no history of vocal abuse. He smokes 10 cigarettes a day and drinks moderately. On indirect laryngoscopy both cords are slightly red but there are no focal abnormalities.

Answer: N. Tuberculous laryngitis - *FALSE*

C. Gastro-oesophageal reflux disease (GORD) - TRUE

- This is suggested by
  1. Early diurnal hoarseness
  2. Absence of any evident pathology on indirect laryngoscopy
- This is one example of non-infectious inflammatory changes of the vocal cords referred to as *chronic laryngitis*
- Other common causes are:
  1. Chronic cough
  2. Heavy smoking

S2

A 60-year-old lifelong heavy smoker reports rapid onset of hoarseness that has slightly improved while waiting for his ENT appointment. He has recently been investigated by the respiratory physicians for chronic cough with haemoptysis and weight loss. On examination he is clubbed.

Answer: E. Laryngeal carcinoma - *FALSE*

G. Neurogenic: left recurrent laryngeal nerve palsy - TRUE

- In this case this has arisen as a result of Carcinoma of the Left Bronchus (see other S+S)
- Vocal cord paralysis arises as a rule from remote causes
  - Causes vary bilaterally as a result of differences in the anatomical course of the RLN
- Left RLN
  - Nerve loops around remnant of *Ductus Arteriosus*
  - Passing below Arch of the Aorta
  - Susceptible to **Left Hilar** pathologies
    1. Tumours
    2. Pulmonary surgery
    3. Left atrial enlargement
- Right RLN
  - Passes below Subclavian Artery
- Cord lines in the paramedian (ADducted) position in contrast to lesions of Vagus or SLN where
  - Cord lies in cadaveric (ABducted position)
  - Usually causing aphonia

S3

A 5-year-old boy is brought to ED with dyspnoea and stridor. His mother has noticed a change in his voice over the past 3 months. His GP has been treating his progressive dyspnoea as asthma. On examination of the vocal cords there are multiple small pedunculated lesions on the vocal cords that are pinkish white in colour.

Answer: B. Candidiasis of the larynx - FALSE

F. Laryngeal papilloma - TRUE

- Viral lesions that commonly arise between the ages of 2 and 5
- Must be removed with care
  - As they can easily spread to whole of larynx and trachea
- Laser removal (vaporises lesions) is treatment of choice
- The are said to disappear at puberty: exception rather than the rule
- Multiple papillomas are a cause of stridor and respiratory obstruction
  - Sometimes necessitating tracheostomy

Notes

- Dysphonia = impairment of voice; two categories
  1. Problems with projection of voice
  2. Problems with quality of voice
- The commonest of the later is hoarseness
  - Form of dysphonia defined as a rough or noisy quality of voice
  - Often used interchangeably with 'dysphonia'
- Causes of dysphonia can be divided into 2 categories
  1. **Damage to mucosal surface** of cords: e.g. inflammation, tumour
  2. Leading to **vocal cord paralysis**

Theme: Stridor (A)

```
A. Acute epiglottitis
B. Acute laryngotracheobronchitis
C. Anaphylactic reaction
D. Angioneurotic oedema
E. Bilateral recurrent laryngeal nerve paralysis
F. Carcinoma of the larynx
G. Diphtheria
H. Fracture of the larynx
I. Inhaled foreign body
J. Inhalation or ingestion of irritants
K. Laryngeal papilloma
L. Ludwig's angina
M. Maxillofacial trauma
N. Paralaryngeal haematoma
O. Reduced consciousness level
P. Thyroid carcinoma
```

#4545

S1

A 1-year-old child presents on Boxing Day with a mild upper respiratory tract infection that has progressively worsened. His mother now describes a cough like a seal's bark and stridor. The child has a temperature of 38.5C and is tachycardic. There is stridor and expiratory wheeze.

Answer: A. Acute epiglottitis - *FALSE*

B. Acute laryngotracheobronchitis - TRUE

- Also known as 'Croup' - caused by viral infection (parainfluenza 1)
    - Commonly affects 6-month to 3-year-old age group in winter months
- Stridor (and respiratory obstruction) is caused by subglottic oedema
- Treatment
    1. Humidified air/oxygen in an incubator (or croupette)
    2. Supportive nasogastric/IV fluids
- IV ABx are used to cover for secondary bacterial infections (or tracheiti in severe cases)
- Scrupulous observation is required for signs of impending respiratory obstruction
    - Requiring nasotracheal intubation or tracheostomy (if this fails)

Notes

- Croup is distinguished from acute epiglottitis where
    1. Child is usually older
    2. Presence of supraglottic oedema
        - Epiglottis is red and swollen
        - Protrused above the tongue: the 'rising sun' sign
- Diphtheria is a DDx in unimmunised populations

S2

An 18-year-old girl presents with facial oedema, dyspnoea and stridor. She is apyrexial and has no medical history, drug history or allergies.

Answer: C. Anaphylactic reaction - *FALSE*

D. Angioneurotic oedema - TRUE

- Condition of unknown aetiology most commonly affected young women
- Management
    1. Close observation
    2. Antihistamines
    3. IV steroids/epinephrine nebulisers
- Should condition deteriorate, patient may require orotracheal intubation

Notes

- Angioneurotic oedema is only distinguished from anaphylactic chock by *absence* of a precipitating allergen (ABx, bee sting etc)

S3

A 25-year-old fireman is rescued by his colleagues after becoming trapped by falling debris in a burning building. He is alert and oriented but has stridor, hoarseness and a cough productive of black sputum. He has burns to the face and upper torso.

Answer: J. Inhalation or ingestion of irritants - TRUE

- In this case the patient has smoke inhalation with burns to the upper airway
- Supraglottic airway is extremely susceptible to obstruction as a result of exposure to heat
- When a patient is admitted after burn injury
  - Must **always** be alert to possibility of airway involvement
- Clinical indications of inhalation injury include
  1. Facial burns
  2. Singeing of the nasal hairs
  3. Carbon deposits in the oropharynx
  4. Carbonaceous sputum
  5. Hoarseness
  6. Carboxyhaemoglobin level > 10%
- Stridor is an indication for *immediate* orotracheal intubation
  - Should have electively intubated patient before sign is present
- Similar pattern of airway obstruction can be caused by ingestion of corrosives, such as strong acids/alkalis

Theme: Non-neoplastic salivary gland disease (A): #4547

```
A. Acute suppurative sialadenitis
B. HIV-associated sialadenitis
C. Mikulicz's syndrome
D. Sarcoidosis
E. Sialolithiasis
F. Sialosis
G. Sjogren's syndrome
H. Viral parotitis
I. Xerostomia
```

S1

A 49-year-old man attends ED with severe, sudden onset submandibular pain. Over the last few weeks he has experiences similar pain precipitated by eating, but never as severe as this. Past history includes hypertension. On examination, he is afebrile and there is diffuse submandibular swelling that is only minimally tender on palpation.

Answer: E. Sialolithiasis - TRUE

- Calculi can occur in the submandibular or parotid glands
    - The former (submandibular) is most commonly affected
- Predisposing factors include
    1. Chronic sialadenitis
    2. Reduced salivary flow rates
    3. Dehydration
    4. Duct obstruction
- Calculi are associated with
    1. Diabetes mellitus
    2. Hypertension
    3. Chronic liver disease
- A stone within a gland may be asymptomatic
    - Whereas a stone in the duct is likely to cause painful swelling that is precipitated by eating
- Acute suppurative sialadenitis may supervene
    - Characterised by fever and severe pain
    - May give rise to spasm of adjacent muscles of mastication
        - Leading to 'trismus'
        - Such a patient may be toxic

Notes

- 20% of submandibular (66% of parotid) are radiolucent
    - Sialography is indicated to demonstrate filling defects
- Stones may be removed surgically
    - Distal stones: lithotomy
    - Proximal stones: excision of the duct with the gland

S2

A 32-year-old woman is referred to clinic with parotidomegaly. She reports intermittent painless welling over the last few months. Past medical history includes hypothyroidism and chronic back pain for which she takes thyroxine 100μg and co-proxaol, respectively. On examination, there is soft enlargement of the parotid gland.

Answer: H. Viral parotitis - *FALSE*

F. Sialosis - TRUE

- Sialosis refers to recurrent swelling of the salivary gland
  - In the **absence** of neoplasia or inflammation
- The swelling is typically painless and bilateral
- An important distinguishing feature from other causes of parotidomegaly
  - Gland, although enlarged, remains soft and not indurated
- Sialosis occurs in association with
  1. Endocrine disorders
     - Myxoedema
     - Cushing's disease
     - Diabetes mellitus
  2. Metabolic disturbances
     - Nutritional disorders
     - Vitamin deficiencies
  3. Certain drugs, including
     - Dextropropoxyphene (co-proxamol)
     - Oral contraceptive pill (OCP)
     - Anti-psychotics
     - Clonidine

S3

A 50-year-old woman presents with a recent history of dry mouth. On direct questioning she reports irritations of her eyes, although she denies arthralgia. There is no relevant past medical or drug history. Clinical examination of the salivary glands is unremarkable. FBC is normal, but ESR and CRP are both grossly elevated.

Answer: G. Sjogren's syndrome - TRUE

- The salivary glands may be damaged by autoimmune disease
- Primary Sjogren's syndrome is characterised by the presence of 2 of the following triad
    1. Keratoconjunctivitis sicca (dry eyes)
    2. Xerostomia (dry mouth)
    3. Rheumatoid arthritis, or other connective tissue disorder e.g.
        - Scleroderma
        - Systemic Lupus Erythematosus (SLE)
        - Polyarteritis nodosa
- The clinical scenario presented describes a patient with primary Sjogren's syndrome
    - Xerostomia + Xerophthalmia with **no** connective tissue component
- By contrast, secondary Sjogren's syndrome refers to the presence of all three features

Notes

- The main differential in 'at risk' groups is that of HIV-associated sialadenitis
    - Which is clinically indistinguishable
- The diagnosis should be considered especially in female patients
    - Sjogren's has a female predominance of 10:1
- Mikulicz's syndrome is also an automimmune syndrome that describes
    1. Enlargement of the salivary glands
    2. Xerostomia
    3. Enlargement of the lacrimal glands causing
        - Bulge below the outer end of the eyelids
        - Narrowing in the palpebral fissures

Theme: Salivary gland tumours (A): #4548

```
A. Acinic cell carcinoma
B. Adenocarcinoma
C. Adenoid cystic carcinoma
D. Epidermoid carcinoma
E. Lymphoma
```

```
F. Metastatic carcinoma
G. Monomorphic adenoma (**synonym**: adenolymphoma - Warthin's
tumour)
H. Mucoepidermoid carcinoma
I. Pleomorphic adenoma
J. Squamous cell carcinoma
```

S1

A 47-year-old man is referred to clinic with unilateral swelling affecting the right parotid gland. He reports painless swelling, increasing in size over the last few years. Examination confirms intact facial nerve function, although inspection of the mouth reveals displacement of the right tonsil and pillar of the fauces towards the midline.

Answer: G. Monomorphic adenoma (Warthin's tumour) - FALSE

I. Pleomorphic adenoma - TRUE

- Tumour is a slow-growing lesion that comprises glandular and stromal elements
  - Does **not** have a true capsule, but a pseudo-capsule resulting from fibrosis of the abjacent compressed salivary tissue
- Multiple projects extending through 'defects' in the pseudo-capsule into the normal surrounding tissue prevent treatment by enucleation
- Clinically, pleomorphic adenomas present as slow-growing painless masses
- There is *rarely* disruption of the Facial Nerve
  - Although location in the deep part of the gland may displace adjacent structures inside the mouth
- Diagnosis is confirmed by fine-needle aspiration

Notes

- Such tumours should be removed by parotidectomy
  - Superficial: tumour in superficial lobe of the gland
  - Total + preservation of Facial Nerve: when tumour involved deep part of gland
- Tumours in submandibular gland should be treated by excision of the gland

S2

A 61-year-old woman has been referred urgently by her GP with a history of painful swelling of the right parotid gland. She has recently developed facial nerve palsy on the right side. Examination reveals a cystic mass that os fixed

over the parotid gland, and associated cervical lymphadenopathy. Fine-needle aspiration demonstrates the presence of atypical mucous cells.

Answer: H. Mucoepidermoid carcinoma - TRUE

- This is the **most common malignant** salivary gland tumour
- Associated pain is not a reliable indicator of malignancy
  - But pain **is** associated with a worse prognosis in *proven malignancy*
- Presentation with facial nerve involvement is **very suggestive** of a malignant tumour **Notes**
- 25% of patients have associated lymphadenopathy at time of presentation
- Histologically, the tumour is composed of epidermoid cells & mucous cells
  - Which secrete mucus into the stroma of the tumour
  - Giving rise to its cystic nature
- Tumours may be graded as high- or low- grade
  - Although their biological behaviour tends to be unpredictable
- 10-yr survival rates for high/low grade tumours
  - High-grade: 40%
  - Low-grade: 80%

S3

A 71year-old man presents with swelling of the left parotid gland. Examination reveals a non-tender enlargement of the left parotid gland, with bilateral cervical and axillary lymphadenopathy. These is intact facial nerve function. FBC: Hb = 8.8 g/dL, WCC = 2.2 x $10^{9/L,}$ PLT: 45 x $10^{9/L}$

Answer: E. Lymphoma - TRUE

- Primary salivary gland lymphomas are uncommon
  - Accounting for 10% of all salivary gland malignancies
  - The majority tend to be **non**-Hodgkin's lymphoma (NHL)
- Patients with non-Hodgkin's usually present with localised or generalised **non**-tender lymphadenopathy
- ~40% of patients have bone marrow involvement at presentation
  - Resulting in cytopenia
  - May be associated splenic or hepatic involvement

Theme: Neck lumps (A) #4549

```
A. Branchial cyst
B. Carotid body tumour
C. Cervical rib
D. Cystic hygroma
E. Parotid tumour
F. Pharyngeal pouch
G. Sternocleidomastoid tumour
H. Submandibular tumour
I. Thyroglossal cyst
J. -- _option removed_ --
K. Tonsillitis
```

S1

A 37-year-old man presents with a new lump in his neck that on examination is situated in the left carotid triangle, and appears to be deep to the upper third of the SCM. It feels firm and cystic on palpation. Aspiration reveals 10 mL of thick yellow fluid. He is otherwise fit and well.

Answer: D. Cystic hygroma - *FALSE*

A. Branchial cyst - TRUE

- Branchial cysts is a remnant of, usually the **second** branchial cleft
- It is lined by squamous epithelium and if infected, a small sinus may develop tracking to the ski at the anterior border of the SCM
- Presentation is often as this scenario
    - Cyst arising from the junction between upper and middle 1/3rds of SCM
- Treatment is surgical excision with concomitant ABx treatment of any pore-existing infection
- Care must be taken to excise the entire cyst to prevent recurrence
    - It is not necessary to trace and excise andy tract to the pharynx
- Patients must be made fully aware of and five full consent
    - Regarding risks of damage to accessory, vagus and hypogossal nerves
- Rarely a chronically infected cyst may become adherent to the internal jugular vein (IJV)

S2

An 80-year-old woman presents with a history of dysphagia, halitosis, regurgitation and recurrent chest infections. She is otherwise well.

Answer: F. Pharyngeal pouch - TRUE

- Also known as Zenker's diverticulum
  - Often present in the elderly where they have had the opportunity to develop without many Sx
  - Patients eventually complain as in this scenario with dysphagia and subsequent weight loss
- Pulmonary overspill occurs
  - Hoarseness and recurrent chest infections may be the only presenting feature
- A low, anterior triangular mass may be felt and fluid within the pouch can sometimes be displaced on deeper palpation
- Aetiology is unknown
  - Imaging studies suggest a neuromuscular incoordination resulting in herniation of the mucosa through the muscular coat
- Weakest point is **Killian's dehiscence** between the thyropharyngeal and cricopharyngeal muscles
  - Constitute the *inferior constrictor muscle*
- Management: surgical excision using open or endoscopic technique

S3

A 4-month-old infant is brought to clinic with a unilateral swelling on the right side of the neck, The child is noted to posture her head awkwardly, She is otherwise well but her mother reports that she was born by a difficult forceps delivery for a breech presentation.

Answer: A. Branchial cyst - *FALSE*

G. Sternocleidomastoid tumour - TRUE

- These appear 1-2 months after birth
  - Usually accompanied by a history of a complicated or breech birth
- The 'tumour' is unilateral situated as described in this scenario
  - It is initially a haematoma with associated muscle degeneration
  - It is often tender at first and associated with torticollis
- Early treatment is imperative - to prevent permanent disability

    - Active + passive stimulation: achieved at home by infant's parents
- This normally reduceds the 'tumour' over the first 4-6 months
    - Late presentation or failure to respond to conservative treatment require surgery

S4

A 20-year-old woman presents with an asymptomatic painless lump in the midline below her chin. The lump is smooth, measures 1cm, is non-tender and moves on swallowing

Answer: I. Thyroglossal cyst - TRUE

- In the embryo, the thyrogossal gland develops from the thyrogossal duct
    - Originates at the *foramen caecum* at the base of the tongue
- Occasionally the duct may remain patient
    - Structure known as a thryoglossal cyst can persist
- **Commonest** midline neck masses of infancy
    - May be confused with epidermoid cysts, dermoid cysts or pyramidal lobe thyroid nodules
- They are lined with squamous or ciliated pseudostratified columnar epithelium
    - Occasionally they contain lymphoid or thyroid tissue
    - Any of its constituents may undergo malignant change
- Management
    - Surgical excision of the cyst + central portion of hyoid bone
    - Known as Sistrunk's operation - ensures condition cannot recur

Notes

- When considering neck lumps, it may be helpful to consider the anatomy of the neck and its sub-division into anterior and posterior triangles
- However, it is the Editor's view that, in practice, there is a broad division into three
    1. Lymphadenopathy (cervical or supraclavicular): lateral and common
    2. Thyroid lumps/enlargement (and thyroid gland cyst): midline and common
    3. Oddities (often embryologic): lateral and rare

Theme: Cervical lymphadenopathy (A) #4550

```
A. Idiopathic histiocytic necrotising lymphadenitis
B. Infectious mononucleosis
C. Lymphoreticular disease
D. Metastatic malignancy
E. Sarcoidosis
F. Scalp infection
G. Tonsillitis
H. Toxoplasmosis
I. Tuberculosis
```

S1

A 68-yo man presents with an asymptomatic slowly growing painless lump in the neck. On examination he has a hard 2cm mass lying laterally in the submandibular triangle of his neck, deep to the middle third of the right sternocleidomastoid muscle. The patient is noted to have a dysphonia.

Answer: C. Lymphoreticular disease - FALSE

D. Metastatic malignancy - TRUE

- This position describes that of the cervical lymph nodes that drain the oropharynx and larynx
- The lymphatic system of the neck can be divided into Levels 1-5
- This man has palable Level 3 nodes, that also drain Levels 1 & 2
  - Which receive lymph from the Scalp, Face and Lips
- Most likely diagnosis is a **laryngeal carcinoma** given the dysphonia

S2

A 12-yo girl presents with recurrent sore throats and on examination she has a soft 2cm mass lying laterally within the anterior triangle of the neck, just below the angle of the mandible.

Answer: B. Infectious mononucleosis - *FALSE*

G. Tonsillitis - TRUE

- The acute history and anatomical description of involved lymph nodes is typical of tonsillitis

    - Remember that the tonsil itself is a lymphoid structure
- Other acute causes of cervical lymphadenopathy include
    1. Pharyngitis/laryngitis
    2. Epstein-Barr virus (EBV) infection
- Chronic causes include
    1. Tuberculosis
    2. Sarcoidosis

S3

A 28-yo Caucasian presents with a 3-mo Hx of night sweats, weight loss and a unilateral enlargement of his left tonsil. There is also a rubbery enlarged level III lymph node in the left posterior triangle.

Answer: D. Metastatic malignancy - *FALSE*

C. Lymphoreticular disease - TRUE

- The suspicious Hx and Ex findings are typical of malignancy
    - i.e. lymphoproliferative or myeloproliferative disease in this case
- DDx would be tuberculosis/HIV in at-risk individuals

Notes

- The primary causes of cervical lymphadenopathy can be classified into 4
    1. Primary malignancy
        - Lymphomas and leukaemias i.e. lymphoreticular diease
    2. Metastatic malignancy
        - Local carcinomas
    3. Infections
    4. Sarcoid

Theme: Lumps in the neck (A): #5538

```
A. Cystic hygroma
B. Carotid body tumour
C. Tumour in the sterocleidomastoid (SCM) muscle
D. Branchial cyst
E. Cervical lymphadenopathy
F. Thyroid adenoma
```

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G. Carotid artery aneurysm
```

S1

A 3-yo child presents with a slow-growing painless swelling on the right side of the base of the neck. Examination revealed a fluctuant swelling that transilluminated.

Answer: A. Cystic hygroma - TRUE

- Congenital cystic lymphatic malformation at the root of the neck
  - 50% are present at birth
  - Thin walled and transilluminable
- CT and MRI may be helpful for determination of their extent

S2

A woman in her 30s complained of a swelling between the anterior and posterior triangle on the anterior surface of the mid-third of the sternomastoid muscle for the past week, which was painless on examination. She gave a Hx of a similar swelling a few months ago which regressed spontaneously.

Answer: E. Thyroid adenoma - *FALSE*

D. Branchial cyst - TRUE

- Branchial cysts are found at the anterior border of the SCM
  - Usually present in the 3rd decade
- Patients complain of an enlarging lump
  - Usually presenting from behind the junction of upper and mid thirds of SCM
  - Although it may occur behind or just in front of SCM - as **HERE**

S3

A 35-yo woman, who works as an animal handler, with painless swelling in the posterior triangle of her neck for 2 months

Answer: E. Cervical lymphadenopathy - TRUE

- Painless lumps in the posterior triangle are most likely
  - Manifestation of cervical lymphadenopathy
    - As in this case, potentially secondary to occupational disease
  - A cervical rib

Theme: Neck swellings (E) #6109

```
A. Branchial cyst
B. Sebaceous cyst
C. Cystic hygroma
D. Cervical lymph node metastasis
E. Sternomastoid tumour
F. Ludwig's angina
G. Thyroglossal duct cyst
```

S1

A 40-yo man presents with a 3-day Hx of increasing bilateral submental swelling with overlying erythema, pyrexia and trismus.

Answer: E. Sternomastoid tumour - *FALSE*

F. Ludwig's angina - TRUE

- **Ludwig's angina** is a cellulitis affecting the submental spaces bilaterally
- It is usually of dental origin and results in a raised hard floor of mouth
- Trismus is *always* present and the patient is systemically unwell
- Early Dx is essential
    - Airway may become compromised unless prompt Tx is undertaken

S2

A 30-yo lady has a firm swelling in the region of the upper aspect of her left SCM muscle. Recently it has been acutely tender and further enlarged, but responded to antibiotics.

Answer: A. Branchial cyst - TRUE

- Often present in the third or fourth decades
    - As a palpable swelling protruding from the anterior aspect of the upper one-third of the sternocleidomastoid (SCM)
- If they become infected they enlarge and are often painful

S3

A 65-yo man complains of an enlarging hard swelling in the lower aspect of the right anterior triangle, He is a heavy smoker and is concerned about a change in his voice.

Answer: D. Cervical lymph node metastasis - TRUE

- A heavy smoker is at increased risk of developing a SCC of Head and Neck
- Patient has a laryngeal carcinoma resulting in
    1. Voice change
    2. Metastasis to cervical lymph nodes

S4

A 2-yo girl presents with diffuse swelling in her right posterior triangle. Her parents report it is of variable size and upon examination it transilluminates

Answer: C. Cystic hygroma - TRUE

- Also known as cystic lymphangiomas, cystic hygromas are
    - Developmental abnormatilities arising from sequestation of lymphatic tissue
    - That does not communicate normally with the rest of the lymphatic system
- 90% of lesions have developed by 2-years
    - Majority are found in the posterior triangle
- Rapid enlargement may occur secondary to an upper respiratory tract (URT) infection

S5

A 55-yo man with dyspepsia complains of a hard swelling in his left supraclavicular fossa

Answer: D. Cervical lymph node metastasis - TRUE

- **Virchow's node** or **Troisier's sign**
    - A gastric carcinoma has metastasised to the Left Supraclavicular Fossa

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