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Solved Past Paper of ENT **By** **Med-Com**



For Quick Review Only

4th Year MBBS

**Made By MBBS Students of
Various Medical Colleges of
Pakistan**

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Acknowledgement

Alhamdulillah Med-Com has earned its reputation as the only medical organization which is always willing to help other students, making everything easier for them as much as possible. We do believe that goodness and badness never disappear completely; rather it's the dominance of one of them that makes an era good or bad. And we are determined to make this era as good as possible by doing good to others, willingly and selflessly.

Treating human beings properly is a great responsibility for a doctor. We do recommend you to study from recommended syllabus books and use these only for quick revision just before exams, as a patient may present with a disease that is not written in past papers.

We owe special thanks to **Sara Tariq, Shanawar Shakeel, Zoya Manzoor, Muhammad Nauman, Aeman Ali and Amna Tariq** for spending their precious time in solving ENT papers. May they get return from God for this selfless effort.

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Note: Questions related to diagnostic procedures e.g. tracheostomy, bronchoscopy etc are put in operative surgery section

Section 1: EAR

Annual 2003

Q1. Discuss the pathology and treatment of acute attack of Meniere's disease.

Ans: The main pathology is distension of endolymphatic system, mainly affecting the cochlear duct and the saccule and to a lesser extent the utricle and semicircular canal. The dilatation of cochlear duct is such that it may completely fill the Scala vestibule; there is marked bulging of reissner's membrane which may even herniate through the helicotrema into the apical part of Scala tympani. In Meniere's disease, endolymph bursts from its normal channel in the ear, and flows into other areas causing damage.

Treatment:

During the acute attack there is severe vertigo and nausea, vomiting. Patient is apprehensive. Head movements provoke giddiness.

1. Reassurance
2. Bed rest
3. Vestibular sedatives: They should be administered i/m or i/v if vomiting precludes oral administration. Drugs useful in attack are:
 - Dimenhydrinate,
 - Diazepam 5-10mg i/v

It has a tranquilizing effect and also suppresses vestibular activity. In some patients acute attacks can be stopped by ATROPINE 0.4mg.

4. Vasodilators: Inhalation of carbogen. It is a good vasodilator and improves labyrinthine circulation.
5. Histamine: histamine diphosphate 2.75mg dissolved in 500 ml of glucose, given as i.v drip is also a good vasodilator and helps to control acute attacks.

Q2: Write short notes on:

1. Wax in ear
2. Causes of referred pain in ear

Ans: Wax in ear:

Wax is composed of secretion of sebaceous glands, ceruminous glands, hair, desquamated epithelial debris, keratin and dirt. Sebaceous and ceruminous open into the space of hair follicle. Secretion of both these glands mixes with the desquamated epithelial debris and keratin sheds from the tympanic membrane and deep bony meatus to form wax. Wax has a protective function as it lubricates the ear canal function as it lubricates the ear canal and entraps any foreign material that happens to enter the canal .normally only a small amount of wax is secreted which dries up and is later expelled from the meatus by movement of jaw. People which sweat more the activity of ceruminous glands also varies excessive wax secreted and deposited as a plug in the meatus, patients usually presents with impairment of hearing or sense of blocked ear .tinnitus & giddiness may result from impaction of wax against tympanic membrane. Onset of these symptoms is sudden when water enters and the wax swells up. Wax may ulcerate the skin and result in granulomatous formation.

Treatment:

Treatment of wax consists in its removal by syringing or instrumental manipulation. Hard impacted wax may sometimes require prior softening with wax solvents.

Causes of Referred Pain in Ear:

1. Via Vth cranial nerve

(a) Dental. Caries tooth, apical abscess, impacted molar, malocclusion.

- (b) Oral cavity. Benign or malignant ulcerative lesions of oral cavity or tongue.
(c) Temporomandibular joint disorders: Bruxism, osteoarthritis, recurrent dislocation, ill-fitting denture.
(d) Sphenopalatine neuralgia.

2. Via IXth cranial nerve

- (a) Oropharynx: Acute tonsillitis, peritonsillar abscess, tonsillectomy. Benign or malignant ulcers of soft palate, tonsil and its pillars.
(b) Base of tongue: Tuberculosis or malignancy.
(c) Elongated styloid process.

3. Via Xth cranial nerve

Malignancy or ulcerative lesion of: vallecula, epiglottis, larynx or laryngopharynx, esophagus.

4. Via C2 and C3 spinal nerves

Cervical spondylosis, injuries of cervical spine, caries spine.

Annual 2004

Q1: What is etiology and clinical features of secretory otitis media? How will you treat this disease?

Ans: Etiology:

1. Malfunctioning of Eustachian tube:

The causes are:

- Adenoid hyperplasia
- Chronic rhinitis
- Chronic tonsillitis
- Benign and malignant tumors of nasopharynx
- Palatal defects.

2. **Allergy:** Seasonal or perennial allergy to inhalants or food stuff is common in children. This not only obstructs Eustachian tube by only edema but may also lead to increased secretory activity as middle ear mucosa acts as a shock organ in such cases.
3. **Unresolved otitis media:** Inadequate antibiotic therapy in acute suppurative otitis media may inactivate infection but fail to resolve it completely. Low grade infection lingers on. This act as a stimulus for mucosa to secrete more fluid. The number of goblet cells and mucous glands also increase.
4. **Viral infections:** Various adeno and rhino viruses of upper respiratory tract may invade middle ear mucosa and stimulate it to increase secretory activity.

Clinical Features:

- hearing loss
- Delayed and defective speech
- Mild earache

Treatment:

- Decongestants
- Anti-allergic measures
- Antibiotics
- Middle ear aeration

Surgical:

- Myringotomy
 - Grommet insertion
 - Tympanotomy
 - Surgical treatment of causative factor
-

Supply 2004

Q1: What are causes of conductive deafness? How will you treat a case of otosclerosis?

Ans: Causes of conductive deafness:

External Ear:

1. Trauma
2. Foreign bodies
3. Tumor
4. Otosclerosis
5. Necrotizing otitis externa
6. Otomycosis
7. Wax in ear
8. Cholesteatoma
9. Furuncles

Tympanic Membrane:

1. Perforation
2. Herpes zoster oticus
3. Atrophic tympanic membrane
4. Atelectasis
5. Myringitis bullosa

Middle Ear:

1. Trauma
2. Foreign bodies
3. Tumors
4. Osteochondroma
5. Mastoiditis
6. Eustachian tube blockage

Treatment of Otosclerosis:

There is no medical treatment.

Surgical: Stapedotomy with a placement of prosthesis is the treatment of choice.

Q2: Write a short note on otomycosis.

Ans: Otomycosis: It is a fungal infection caused by aspergillus niger, A. fumigatus or Candida Albican. Secondary infection is also seen in patients using topical antibiotics for treatment of otitis externa or middle ear suppuration.

Clinical features:

- Intense itching
- Pain
- Watery discharge
- Musty odor
- Ear blockage

Q3: Write a note on Pure tone audiometry.

Ans: An audiometer is an electronic device which produces pure tones the intensity of which can be increased or decreased in 5 dB steps. Usually air conduction thresholds are measured for tones of 125, 250, 500, 1000, 2000 and 4000 and 8000Hz and bone conduction thresholds for 250, 500, 1000 and 2000 and 4000Hz. the amount of intensity that has to be raised above the normal level is a measure of the degree of hearing impairment at that frequency. it is charted in the form of a graph called audiogram. The threshold of bone conduction is a measure of cochlear function (A-B) gap is a measure of the degree of conductive deafness. When difference between the two ears is 40dB or above in air conduction thresholds

the better ear is masked to avoid getting a shadow curve from the non-test better ear. Similarly masking is essential in all.

Annual 2005

Q1: Write note on

- a) **Malignant otitis Externa**
- b) **Tympanoplasty**
- c) **Bullous Myringitis**

Ans

A: Malignant otitis externa:

It is an inflammatory condition caused by pseudomonas infection usually in the elderly diabetics or in those taking immunosuppressive drugs. Its early manifestation resembles diffuse otitis externa but there is excruciating pain and appearance of granulation in the meatus. Facial paralysis is common infection may spread to the skull base and jugular foramen causing multiple cranial nerve palsies. Anteriorly infection spreads to TMJ fossa posteriorly to mastoid and medially into the middle ear and petrous bone. CT scans is useful. Treatment consists of high doses of i.v antibiotics directed against pseudomonas. Diabetes should be controlled. Surgical intervention should be done.

B: Tympanoplasty:

It is an operation to

- Eradicate disease in the middle ear
- To reconstruct hearing mechanism. it is combination of myringoplasty and ossiculoplasty.

Types of tympanoplasty:

Type i: Defect is perforation of tympanic membrane which is repaired with a graft. It is also called myringoplasty.

Type ii: Defect is perforation of tympanic membrane with erosion of malleus. Graft is placed in malleus or on the incus.

Type iii: malleus or incus is absent. Graft is directly placed on stapes head. it is also called myringostapediopexy or columellate tympanoplasty.

Type iv: only the foot plate of stapes is present. it is exposed to external ear. A graft is placed between oval and round window.

Type v: stapes foot plate is fixed but round window is created on horizontal semicircular canal and covered with a graft also called fenestration operation.

C: Bullous Myringitis:

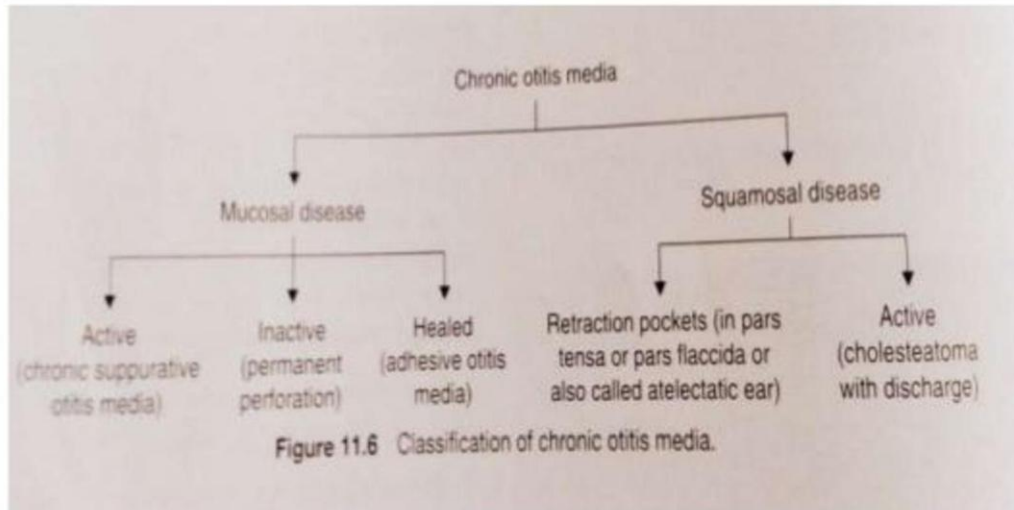
Bullous myringitis is a painful middle ear condition that consists of an inflamed and blistered eardrum. Bullous myringitis occurs when middle ear inflammation leads to the development of a small pus-filled blister on the tympanic membrane. As a blister grows, an individual is likely to experience constant, sharp pain that disrupts hearing. The sore may ooze yellow or white pus that drains from the ear. Painful sensations and drainage typically persist for the life of a blister, usually one to two days. The infection responsible for bullous myringitis may continue to cause symptoms after the ear pain stops.

Supply 2005

Q1: Write classification of chronic otitis media. What are the clinical features of cholesteatoma? Describe its complications.

Ans:

4. Alternative classification of Chronic otitis media



Mucosal disease-tubotympanic disease;
Squamous disease-atticoantral disease;

Clinical Features Of Cholesteatoma:

- Fever
- Ear ache
- Ear discharge
- Vertigo
- Torticollis
- Neck pain
- Papilledema

Complications:

Erosion of bony labyrinth, canal of facial nerve, sinus plate or tegmen tympani. Severe bony destruction.

Annual 2006

Q1: Enumerate the causes of conductive deafness.

Ans: Already Solved. See Q1 in Supply 2004 Section.

Q2: How will you remove hard wax from ear?

Ans: Treatment of wax consists in its removal by syringing or instrumental manipulation. Hard impacted mass may sometimes require prior softening with wax solvents.

Technique Of Syringing The Ear:

Ans: Patient is seated with ear to be syringed towards the examiner. A towel is placed round his neck. A kidney tray is placed over the shoulder and held snugly by the patient. Patient's head is slightly tilted over the tray to collect the return fluid.

Pinna is pulled upwards and backwards and a stream of water from the ear syringe is directed along the poster superior wall of the meatus. Pressure of water, built up deeper to the wax, expels the wax out. If wax is tightly impacted, it is necessary to create a space between it and the meatal wall for the jet of water to pass, otherwise syringing will be ineffective or may even push the wax deeper. Ear canal should be inspected from time to time to see if all wax has been removed. Unnecessary syringing should be avoided. At the end of the procedure, ear canal and tympanic membrane must be inspected and dried with a pledget of cotton. Any ulceration seen in meatal wall as a result of impacted wax is protected by application of suitable antibiotic ointment.

Instrumental Manipulation:

It should always be done by skilled hands and under direct vision. Cerumen hook, scoop or Jobson-Horne probe are often used. First, a space is created between the wax and meatal wall, the instrument is passed beyond the wax, and whole plug then dragged out in a single piece. If it breaks, syringing may be used to remove the fragments.

Occasionally, if the wax is too hard and impacted, to be removed by syringing or instruments, it should be softened by drops of 5% soda bicarb in equal parts of glycerine and water instilled two or three times a day for a few days. Hydrogen peroxide, liquid paraffin or olive oil may also achieve the same result.

Commercial drops containing cerumolytic agents like paradichlorobenzene 2% can also be used and above methods tried again.

Q3: What is otomycosis? Give its treatment.

Ans: Otomycosis

Otomycosis is a fungal infection of the ear canal that often occurs due to *Aspergillus niger*, *A. fumigatus* or *Candida albicans*. It is seen in hot and humid climate of tropical and subtropical countries. Secondary fungal growth is also seen in patients using topical antibiotics for treatment of otitis externa or middle ear suppuration.

Clinical Features: intense itching, discomfort or pain in the ear, watery discharge with a musty odour, and ear blockage. The fungal mass may appear white, brown or black and has been likened to a wet piece of filter paper.

Treatment: consists of thorough ear toilet to remove all discharge and epithelial debris which are conducive to the growth of fungus. It can be done by syringing, suction or mopping. Specific antifungal agents can be applied. Nystatin (100,000 units/ml of propylene glycol) is effective against *Candida*. Other broad spectrum antifungal agents include clotrimazole and povidone iodine. 2% salicylic acid in alcohol is also effective. It is a keratolytic agent which removes superficial layers of epidermis, and along with that, the fungal mycelia growing into them. Antifungal treatment should be continued for a week even after apparent cure to avoid recurrences. Ear must be kept dry.

Q4: Briefly describe clinical features of acute suppurative otitis media in a five year old child.

Ans:

1. Stage Of Tubal Occlusion:

Symptoms: Deafness and earache are the two symptoms but they are not marked. There is generally no fever.

Signs: Tympanic membrane is retracted with handle of malleus assuming a more horizontal position, prominence of lateral process of malleus and loss of light reflex. Tuning fork tests show conductive deafness.

2. Stage Of Pre-Suppurative:

Symptoms: There is marked earache which may disturb sleep and is of throbbing nature. Deafness and tinnitus are also present, but complained only by adults. Usually, child runs high degree of fever and is restless.

Signs: To begin with, there is congestion of pars tensa. Leash of blood vessels appear along the handle of malleus and at the periphery of tympanic membrane imparting it a cart-wheel appearance. Later, whole of tympanic membrane including pars flaccida becomes uniformly red.

3. Stage Of Suppuration:

Symptoms: Earache becomes excruciating. Deafness increases, child may run fever of 102–103°F. This may be accompanied by vomiting and even convulsions.

Signs: Tympanic membrane appears red and bulging with loss of landmarks. Handle of malleus may be engulfed by the swollen and protruding tympanic membrane and may not be discernible. A yellow spot may be seen on the tympanic membrane where rupture is imminent. In pre-antibiotic era, one could see a nipple-like protrusion of tympanic membrane with a yellow spot on its summit. Tenderness may be elicited over the mastoid antrum.

X-rays of mastoid will show clouding of air cells because of exudate.

4. Stage Of Resolution:

Symptoms: With evacuation of pus, earache is relieved, fever comes down and child feels better.

Signs: External auditory canal may contain blood-tinged discharge which later becomes mucopurulent. Usually, a small perforation is seen in antero-inferior quadrant of pars tensa. Hyperemia of tympanic membrane begins to subside with return to normal color and landmarks.

5. Stage Of Complication:

If virulence of organism is high or resistance of patient poor, resolution may not take place and disease spreads beyond the confines of middle ear. It may lead to acute mastoiditis, subperiosteal abscess, facial paralysis, labyrinthitis, petrositis, extradural abscess, meningitis, brain abscess or lateral sinus thrombophlebitis.

Supply 2006

Q1: Describe the clinical features of chronic suppurative otitis media with cholesteatoma. What complications can arise if this condition remains untreated? How will you manage the disease?

Ans: Chronic suppurative otitis media (CSOM) is a long-standing infection of a part or whole of the middle ear cleft characterized by ear discharge and a permanent perforation. Atticoantral type involves posterosuperior part of middle ear cleft (attic, antrum and posterior tympanum and mastoid) and is associated with cholesteatoma, which, because of its bone eroding properties, causes risk of serious complications. For this reason, the disease is also called unsafe or dangerous type.

Symptoms:**1. Ear discharge**

Usually scanty, but always foul-smelling due to bone destruction. Discharge may be so scanty that the patient may not even be aware of it. Total cessation of discharge from an ear which has been active till recently should be viewed seriously, as perforation in these cases might be sealed by crusted discharge, inflammatory mucosa or a polyp, obstructing the free flow of discharge. Pus, in these cases, may find its way internally and cause complications.

2. Hearing loss

Hearing is normal when ossicular chain is intact or when cholesteatoma, having destroyed the ossicles, bridges the gap caused by destroyed ossicles (cholesteatoma hearer). Hearing loss is mostly conductive but sensorineural element may be added.

3. Bleeding

It may occur from granulations or the polyp when cleaning the ear.

Signs:

1. Perforation

It is either attic or posterosuperior marginal type. A small attic perforation may be missed due to presence of a small amount of crusted discharge. Sometimes, the area of perforation is masked by a small granuloma.

2. Retraction pocket

An invagination of tympanic membrane is seen in the attic or posterosuperior area of pars tensa. Degree of retraction and invagination varies. In early stages, pocket is shallow and self-cleansing but later when pocket is deep, it accumulates keratin mass and gets infected.

3. Cholesteatoma

Pearly-white flakes of cholesteatoma can be sucked from the retraction pockets. Suction clearance and examination under operating microscope forms an important part of the clinical examination and assessment of any type of CSOM.

Features Indicating Complications in CSOM**1. Pain**

Pain is uncommon in uncomplicated CSOM. Its presence is considered serious as it may indicate extradural, perisinus or brain abscess. Sometimes, it is due to otitis externa associated with a discharging ear.

2. Vertigo

It indicates erosion of lateral semicircular canal which may progress to labyrinthitis or meningitis. Fistula test should be performed in all cases.

3. Persistent headache: It is suggestive of an intracranial complication.

4. Facial weakness: Indicates erosion of facial canal.

5. A listless child refusing to take feeds: Easily going to sleep (extradural abscess).

6. Fever, nausea and vomiting: Intracranial infection

7. Irritability and neck rigidity: Meningitis

8. Diplopia: Gradenigo's syndrome.

9. Ataxia: labyrinthitis or cerebellar abscess.

10. Abscess round the ear: Mastoiditis.

Management:**➤ Investigations**

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

➤ Treatment

1. Surgical
2. Reconstructive surgery
3. Conservative treatment

Annual 2007

Q1: What are the various types of foreign bodies in ear?

Ans:

Non-living: Children may insert a variety of foreign bodies in the ear; the common ones often seen are: a piece of paper or sponge, grain seeds (rice, wheat, maize), slate pencil, piece of chalk or metallic ball bearings. An adult may present with a broken end of match stick used for scratching the ear or an overlooked cotton swab. Vegetable foreign bodies tend to swell up with time and get tightly impacted in the ear canal or may even suppurate.

Living: Flying or crawling insects like mosquitoes, beetles, cockroach or an ant may enter the ear canal and cause intense irritation and pain. No attempt should be made to catch them alive. First, the insect should be killed by instilling oil (a household remedy), spirit or chloroform water.

Q2: How will you treat maggots in ear?

Treatment consists of instilling chloroform water to kill the maggots which can later be removed by forceps. Usually, such patients have discharging ears with perforation of the tympanic membrane, and syringing may not be advisable.

Q3: A seven year old child who had chronically discharging left ear developed otalgia retroauricular tender swelling with pinna protruded outwards and forwards. How will you manage?

Ans: Mastoid abscess

Treatment:

1. Hospitalization
2. Antibiotics according to culture sensitivity
3. Myringotomy
4. Cortical mastoidectomy

Annual 2008

Q1: A female thirty years of age presented with pain right ear for last three days which has increased in intensity gradually. The pain is aggravated on chewing movements. There is no history of ear discharge. On examination movements of pinna are painful. Meatus is occluded by swelling and there is some forward displacement of pinna.

- a) What is the probable diagnosis?
- b) What is the differential diagnosis?
- c) How will you manage this patient?

Ans: a) Furuncle

B: Differential Diagnosis:

- Acute mastoiditis
- Sebaceous cyst
- Acute suppurative otitis media
- Malignant otitis externa
- Diffuse otitis externa

C: Management:

- Systemic antibiotics
- Local heat
- Analgesic
- Ear pack of 10% ichthamol glycerin
- If abscess has formed incision and drainage should be performed
- In case of recurrent furunculosis, diabetes should be excluded, and attention should be paid to nasal vestibule

Q2: A female 30 years of age complains of decreased hearing both ears which is gradually worsening. Hearing is better in noisy surroundings. Voice is quiet. On otoscopy tympanic membrane is normal.

- a) What is the most probable diagnosis?
- b) What would be the findings:

Ans: a) Otosclerosis.

b) Findings:

➤ **On TFT**

Rinne: Negative first for 256 Hz and then 512 Hz

Weber: This will be lateralized to the ear with greater conductive loss

ABC: May be normal. It is decreased in cochlear otosclerosis with sensorineural loss.

➤ **On pure audiometry:** Shows loss of air conduction, more for lower frequencies.

Q2: A female of forty years present with episodic vertigo. Vertigo is intense associated with nausea and vomiting. There is rotation of surroundings. Vertigo lasts for few hours and patient complains of decreased hearing during the attack which improves in between. Patient also complains of tinnitus and fullness of ears.

- What is the most probable diagnosis?**
- What is the differential diagnosis?**
- How will you prove the diagnosis?**
- How will you manage this patient?**

Ans: a) Meniere's Disease

b) Differential Diagnosis:

Benign paroxysmal positional vertigo
Acute vestibular neuritis
Thrombosis of labyrinthine
Acoustic neuroma
Syphilis
Head trauma
Vestibular toxic drugs

c) Investigations:

Pure tone audiometry
Tuning fork tests

d) Management:

- Bed rest
- Vasodilators
- Vestibular sedatives

Management of chronic phase:

- Vestibular sedatives
- Vasodilators
- Diuretics
- Elimination of allergen
- Hormones

Surgical treatment:

- Decompression of endolymphatic sac
- Sacculotomy
- Section of vestibular nerve
- Ultrasonic destruction of vestibular labyrinth

Annual 2009

Q1: A 45 years old male complains of otalgia for the last few days which is increasing in intensity. Pinna is reddish and swollen and tender to touch. Patient is a known diabetic for last many years. Blood sugar random is 300mg%.patient has also developed facial nerve paresis and headache.

- What is the most probable diagnosis?**
- Which investigations you will like to do?**
- How will you treat the case?**

Ans:

- Malignant otitis externa**
- Ct scan**
- Diabetes should be controlled.

- High dose of i.v antibiotics against pseudomonas third generation cephalosporin for 6 to 8 weeks.
- Surgical debridement of devitalized tissue and radical dissection,

Q2: A 40 years old male long standing left sided ear discharge. For last 2 days, he complains of severe pain with vomiting. He cannot bend his neck without pain white cell count is 14000 permm3.

- a) What is likely diagnosis?**
- b) Which test you will do to confirm diagnosis?**
- c) How will you treat the patient?**
- d) Enumerate the complications of this primary ear problem.**

Ans: a) Meningitis

b) Investigations:

- 1) CT or MRI with contrast
- 2) Lumbar puncture and CSF evaluation: CSF is turbid.
- 3) Culturing of CSF to find the organism

c) Treatment:

- Medical: Antibiotics according to culture sensitivity.
- Corticosteroids: To reduce neurological and audio logical complications.
- Surgical: myringotomy, cortical mastoidectomy, radical or modified mastoidectomy

d) Complications:

- Brain abscess
- Papilledema
- Extradural abscess
- Subdural abscess
- Otitis hydrocephalus

Q3: A female 45 years of age develops episodic vertigo. Each episode of vertigo being intense accompanied with nausea and sweating, fullness in the ear, tinnitus, and decrease hearing during the attack. She is having such episodes for last 6 months.

- a) What is the most probable diagnosis?**
- b) What is the differential diagnosis?**
- c) What is the medical management of this case?**

Ans: Already Solved. See Q2 in Annual 2008 section.

Annual 2010

Q1: A 45 years old diabetic patient complained of earache. Examination showed mastoiditis. After several courses of antibiotics develops symptoms and sings of ear infection again and again. What is the best plan of management?

Ans:

- Sugar control
- Radical or modified mastoidectomy
- Cortical mastoidectomy
- Full dose of antibiotics for long duration

Annual 2011

Q1: A 25 years old girl complains of right sided deafness. She can hear better at noisy places. Otoscope revealed normal ear drums.

- a) How will you investigate her?**
- b) What are the treatment options for her?**

Ans:

a) **Otosclerosis investigations:**

- Rinne: Negative first for 256 Hz and then 512 Hz
- Weber: This will be lateralized to the ear with greater conductive loss
- ABC: May be normal. It is decreased in cochlear otosclerosis with sensorineural loss.
- On pure audiometry: Shows loss of air conduction, more for lower frequencies.
- Tympanometry: may be normal in early but show curve due to ossicular stiffness
- Stapedius reflex absent

b) **Treatment:**

- **Medical:** sodium fluoride
- **Surgical:** stapedotomy with prosthesis is the treatment of choice
 - **Selection of patient for stapes surgery:**
 - Hearing threshold should be 30Db or worse
 - Average air bone gap should be at least 15db
 - Speech discrimination should be 60% or more

Supply 2011

Q1: A 50 year old diabetic male complains of severe pain in left ear. On examination his pinna is protruding outwards and tender to pull. Otoscopy could not be performed due to excruciating pain.

- What is the diagnosis?**
- Which organism is responsible for this condition?**
- How will you treat him?**

Ans: a) Furunculosis

b) Staphylococcus Aureus

c) Treatment:

- Furunculosis of the external canal is exquisitely painful and appropriate analgesics should be offered to all patients.
- Treatment choices include:
- Oral or systemic antistaphylococcal antibiotics (penicillinase-resistant penicillin, macrolide, cephalosporin, clindamycin or quinolone);
- Topical treatment: (antibiotics, astringents, hygroscopic dehydrating agents); incision and drainage.

Q2: A 50 year old lady complained of blocked left ear. On otoscopy she had hard wax in ear canal. When doctors tried to remove this wax she started coughing and procedure was abandoned due to patient's noncooperation.

- Why she had cough during wax removal?**
- How will you remove her wax?**
- List three contraindications for ear syringing.**

Ans: a) Due to vagus nerve stimuli.

b) If the wax is hard and impacted difficult to remove causing cough, to be removed by syringing or instruments. It should be softened by drops of 5% soda bicarb in equal parts of glycerin and water instilled two or three times a day for a few days.

c) Contraindications:

- Acute otitis media
- Tympanic membrane perforation
- cholesteatoma

Q3: A 27 year old lady complains of episodic tinnitus, vertigo and reduced hearing. Her PTA showed bilateral sensorineural hearing loss while tympanogram was normal. Her ESR is 20.

- a) What is likely diagnosis?
- b) What are the treatment options?

Ans: Already Solved. See Q2 in Annual 2008 section.

Annual 2012

Q1: A six year old child complains Of hearing difficulty. He does not cooperate for otoscopic examination or free field hearing assessment.

- a) List four common causes of deafness at this age.
- b) Give two audiological tests.

Ans:

a) **Causes:**

- Furunculosis
- Mastoiditis
- Otitis media
- Measles

b) **Tests:**

- Tuning fork test
- Pure tone audiometry

Q2: A two year old child has severe earache after common cold. Otoscopy shows red drum. His temperature is 39C WBC count is 14000.

- a) What is likely diagnosis?
- b) What are the various stages?
- c) How will you treat it?

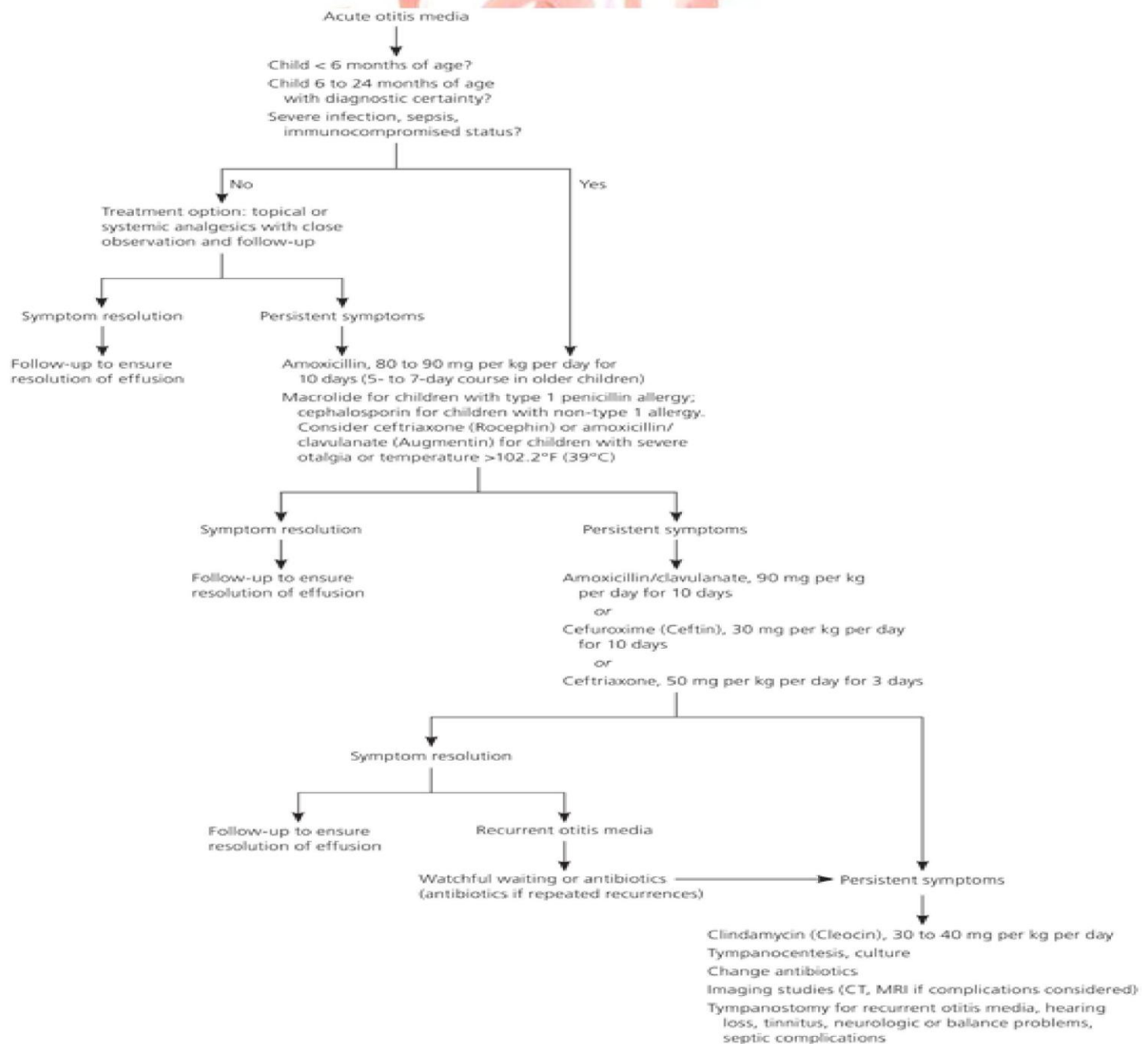
Ans: a) Otitis media

b)

1. Stage of tubal occlusion
2. Stage of pre suppuration
3. Stage of suppuration
4. Stage of resolution
5. Stage of complications

P.T.O

c)



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Section 2: NOSE

ANNUAL 2003

Q: What are the causes of nasal polyps? How recurrent polyps are investigated and treated?

A: 1) Chronic rhinosinusitis 2) Asthma 3) Aspirin intolerance 4) Cystic fibrosis
5) Allergic fungal sinusitis 6) Kartagener syndrome 7) Young syndrome
8) Churg-strauss syndrome 9) Nasal mastocytosis

Investigations: CT scan, X Rays

Treatment: 1) Polypectomy 2) intranasal ethmoidectomy 3) extranasal ethmoidectomy
4) Transnasal ethmoidectomy 5) endoscopic sinus surgery 6) avulsion
7) Caldwell-luc operation

(CHAP 32 DHINGRA)

SUPPLY 2003

Q: Write a short note on Boil Nose.

Ans: It is an acute infection of hair follicle by staphylococcus aureus. The lesion is small but very painful and tender. Inflammation may spread to the skin of the nasal tip and dorsum which becomes red and swollen. The furuncle/boil may rupture spontaneously in the nasal vestibule

Treatment: warm compressors, analgesics, topical and systemic antibiotics, incision and drainage can be done

Furuncle should not be squeezed or prematurely incised because of the danger of spread of infection to cavernous sinus.

ANNUAL 2004

Q1: Give causes of unilateral nasal discharge. How will you treat RHINOLITH?

Ans: 1) Foreign bodies 2) Deviated nasal septum 3) Antrochoanal polyp 4) Rhinolith
5) Unilateral sinusitis

Treatment: They are removed under general anesthesia, Most of them are removed through Anterior nares. Large one needs to be broken into pieces before removal. Hard rhinoliths requires lateral rhinotomy.

(CHAP 29 DHINGRA)

Q2: Write a short note on Boil Nose?

Ans: Already Ansed. See Supply 2003 section.

Q3: What is epistaxis? Discuss different causes of epistaxis?

Ans: **Epistaxis:** Bleeding from inside the nose is called epistaxis.

Causes:

- 1) Local: Trauma, infections, foreign bodies, atmospheric changes
- 2) General: Cardiovascular disease, disorders of blood and blood vessels, liver disease, kidney disease, acute general infection, drugs, mediastinal compression, idiopathic causes.

(DHINGRA CHAP 33)

SUPPLY 2004

Q: Write a short note on Rhinolith?

Ans: Already Ansed. See Annual 2004 Section.

ANNUAL 2005

Q: Write the clinical features, complications and management of Acute Maxillary Sinusitis?

Ans: Clinical Features: Headache, Pain, Redness n edema of cheeks, Nasal discharge, postnasal discharge, malaise, body aches and toxemia.

Complications: Subacute or chronic sinusitis, Frontal sinusitis, Osteomyelitis or osteitis, Orbital cellulitis or abscess

Management: Antimicrobial drugs (erythromycin, doxycycline or cotrimoxazole), nasal decongestant drops (ephedrine or 0.1 % oxymetazoline), steam inhalation, analgesics, hot fomentation

Surgical: Antral lavage.

(CHAP NO. 36 DHINGRA)

SUPPLY 2005

Q: What are nasal polyps? Difference between ethmoidal polyps and antrochoanal polyps? What is the treatment of recurrent antrochoanal polyp?

Ans: Nasal polyps are non neoplastic masses of edematous nasal or sinus mucosa

Ethmoidal Polyps: Common in adults, occur because of allergy, they are multiple in number, bilateral, found in ethmoid sinus, uncinate process. They are small grapes like.

Antrochoanal Polyps: Common in children, occur because of infections, solitary, found in maxillary sinus, they are unilateral, and they are tri lobed with antral, nasal and choanal.

Treatment: Avulsion, Caldwell-luc operation, Endoscopic sinus surgery

(CHAP 32 DHINGRA)

ANNUAL 2006

Q1: Write difference between Allergic Rhinitis and Vasomotor Rhinitis?

Ans: Allergic Rhinitis: It is an IgE mediated response of nasal mucosa to airborne allergens. It is characterized by watery nasal discharge, nasal obstruction, sneezing and itching in the nose. Paroxysmal sneezing 10-20 sneezes at a time. It involves eyes palate or pharynx.

Vasomotor Rhinitis: It is non allergic rhinitis. It is characterized by rhinorrhea and sneezing (after getting out of the bed). Emotions play a great role in it. It don't involves palate pharynx (CHAP 30 N 31 DHINGRA)

SUPPLY 2006

Q1: What are the complications of CHRONIC SINUSITIS?

Ans: Local: 1) Mucocele of paranasal sinuses and mucous retention cyst 2) Osteomyelitis

Orbital: 1) inflammatory edema of lids 2) orbital cellulitis 3) orbital abscess
4) Sup. Orbital fissure syndrome 5) subperiosteal abscess

Intracranial: 1) Meningitis 2) Extradural abscess 3) Subdural abscess 4) Brain abscess
Descending infections, Focal infections.

(CHAP 38 DHINGRA)

Q2: What are sign and symptoms of ATROPHIC RHINITIS? And treatment options?

Ans: Signs and Symptoms: 1) Merciful anosmia, patient himself is unaware of smell.

2) Nasal obstruction 3) Greenish or grayish black dry crusts 4) Epistaxis 5) Roomy nasal cavity

6) Septal perforations 7) Pale nasal mucosa 8) Saddle deformity 9) Pharyngitis

10) Dermatitis of nasal vestibule

Treatment:

Medical: 1) Nasal irrigation and removal of crusts 2) 25% glucose in glycerin

3) Local antibiotics 4) Oestradiol spray 5) Systemic use of streptomycin

Surgical: 1) Young's operation 2) Modified young's operation 3) Narrowing the nasal cavities

By Teflon plate 4) Insertion of fat, cartilage, bone under mucoperiosteum of the floor and lateral

wall of the nose. 5) Section and medial displacement of lateral wall.

(CHAP 27 DHINGRA)

Q3: Describe the gross appearance of INFERIOR TURBINATES on anterior rhinoscopy in the following conditions. Chronic atrophic rhinitis, Allergic rhinitis, chronic catarrhal rhinitis, chronic hypertrophic rhinitis

Ans: 1) Atrophy of turbinates so much so that the posterior wall of nasopharynx can be easily seen.
2) Turbinates are swollen. 3) Nasal obstruction. 4) Hypertrophy of turbinates and mucosal changes in inferior turbinates.

ANNUAL 2007

Q1: A 10 yrs old boy had fall from stairs and suffered from severe nasal trauma. Outline the first aid management of this child. Enlist 4 complications?

Ans: Management: Maintenance of airway should be secured by intubation or the tracheotomy. Hemorrhage, injuries of face may bleed profusely and it should be stopped by pressure or ligation of vessels.

Associated injuries should be attended too.

Complications: Following are the complications of nasal trauma:-

- 1) Nasal obstruction 2) Deviated septum 3) Collection of blood 4) Cartilage fracture

(CHAP 34 DHINGRA)

Q1: A lady presented to ENT OPD with excessive sneezing, watery rhinorrhea, nasal obstruction, headache, low grade fever for last 2 days. She also has aches and pain and irritation in throat. What are most likely diagnosis and management?

Ans: Viral Rhinitis Coryza

Management:- 1) Bed rest 2) Plenty of fluids 3) Anti histamines and nasal decongestants
4) Non aspirin analgesics 5) Antibiotics for secondary infection. (CHAP 27 DHINGRA)

Q2: A 55 yrs old female presented with right sided nasal obstruction, foul smelling, blood stained nasal discharge, right sided proptosis and pain in face. Examination also reveals a loose right upper molar teeth. How will you manage this?

Ans: Carcinoma of Maxillary Sinus.

Management:- 1) Radiotherapy and surgery 2) Preoperative telecobalt therapy 3) Maxillectomy. (CHAP 40 DHINGRA)

SUPPLY 2007

Q1: A 7 yr old girl developed left sided epistaxis. Which measures will you adopt to stop her nose bleed?

Ans: Measures: 1) Pinching the nose with thumb and index finger. TROTTER'S METHOD
2) Cold compression 3) Anterior nasal packing 4) Posterior nasal packing 5) Cauterization
6) SMR operation 7) Ligation of vessels 8) Endoscopy cautery.

(CHAP 33 DHINGRA)

Q2: A 5 yr old baby was hit on nose by a fellow child. He developed total blockage of nose within an hour when he was brought to the ENT surgeon. There is no epistaxis. Diagnosis and management?

Ans: Nasal trauma. May be septal hematoma.

Management: Maintenance of airway should be secured by intubation or the tracheotomy.

Hemorrhage, injuries of face may bleed profusely and it should be stopped by pressure or ligation of vessels.

Associated injuries should be attended too.

Q3: A 10 year old boy had fall from stairs and suffered from severe nasal trauma.

a) Enlist the first aid management of this child?

b) Enlist four complications of nasal trauma?

Ans:

a) Immediate Action:

- 1- Airway; maintenance of airway should receive the highest priority.
- 2- Haemorrhage; bleeding should be stopped by pressure or ligation of vessels.
- 3- Associated injuries; facial injuries are associated with injuries of head, chest and abdomen. They should be attended too.

b) Complications:

- i- Septal hematoma
- ii- septal abscess
- iii- septal perforation
- iv- deformity

ANNUAL 2008

Q1: A male 20 yrs old presented with unilateral nasal obstruction on right side. On examination grayish mass in right nostril which is seen hanging in the nasopharynx on posterior rhinoscopy

Diagnosis? Management?

Ans: Antrochoanal Polyp

Diagnosis: Diagnosis is confirmed by x rays, CT scan

Management: 1) Caldwell-luc operation 2) Endoscopic sinus surgery 3) Avulsion.

(CHAP 33 DHINGRA)

Q2: A female of 50 yrs known diabetic for 15 years is admitted in the medical ward for management of diabetic ketoacidosis. Black necrotic turbinate is noted in right nostril along with right eye proptosis. What is diagnosis? How will u prove your diagnosis? How will you manage the case?

Ans: Mucormycosis

In diabetic and immunocompromised patients the fungus invades the artery and cause endothelial damage and thrombosis. Black necrotic mass fills the nasal cavity.

Diagnosis: 1) SPECIAL STAINS 2) CT SCAN

Management: 1) Surgical debridement of affected tissues 2) Amphotericin-B

3) Control of underlying predisposing causes.

(CHAP 28 PAGE 159 DHINGRA)

Q3: A male of 20 year of the age presented with unilateral nasal obstruction on right side. On examination there is grayish mass in right nostril which is seen hanging in the nasopharynx on posterior rhinoscopy.

a) What is most probable diagnosis?

b) How will you confirm your diagnosis?

c) How will you manage this patient?

Ans: a) Antrochoanal polyp

b)

- Clinical examination
- CT scan -exclude bony erosion and expansion.
- Histological examination-to exclude malignancy.

c) An antrochoanal polyp is easily removed by avulsion either through the nasal or oral route.

1- In case of recurrence Caldwell-Luc operation may be required to remove completely from the site of its origin and to deal with coexistent maxillary sinusitis.

2- These days endoscopic sinus surgery has superseded other modes of polyps' removal. Caldwell-Luc operation is avoided.

ANNUAL 2009

Q1: A 25 year old lady presented with throbbing pain on left cheek area with an obvious swelling of cheek for last one week. Pain and swelling is not being revealed by ordinary treatment. Anterior rhinoscopy revealed of nasal mucosa and pus in the middle meatus.

- a) What is the clinical diagnosis?
- b) What are the ways of confirmation of the disease?
- c) Which surgical procedure would you like to adopt?
- d) Which complications can occur from the disease?

Ans: a) Acute maxillary sinusitis

b) Confirmatory Test:

- i- Transillumination test
- ii- X-rays
- iii- Computed tomography

c) Surgical Procedure:

Antral lavage

d) Complications:

- i- Subacute or chronic sinusitis
- ii- Frontal sinusitis
- iii- Osteitis or osteomyelitis
- iv- Orbital cellulitis or abscess

(Page 192 dhingra)

Q2: A 15 year old boy presented in casualty with severe left sided nose bleed. His vitals are stable, anterior rhinoscopy revealed an active bleeding point at little's area on left side of the septum.

a) What are various options to deal with his bleeding point?

b) Enumerate local and general causes of epistaxis?

Ans: a)

- i- Pinching the nose with thumb and index finger for five minutes.
- ii- Totter's method
- iii- Cold compresses
- iv- Cauterization
- v- Anterior nasal packing
- vi- Posterior nasal packing
- vii- Endoscopic cauterization
- viii- Elevation of mucoperichondral flap and submucous resection(SMR) operation
- ix- Ligation of vessels
- x- Embolization

b) Already Solved. See Q2 in Annual 2011 section.

ANNUAL 2010

Q1: A female 50 year of age, known diabetic for last ten years is admitted in the medical ward for management of diabetic ketoacidosis. Black necrotic turbinate is noted in the right nostril along with right eye proptosis by medical resident on call. Patient is sent to the ENT department for consultation.

a) What is the probable reason for these clinical findings?

b) How will you prove your diagnosis?

c) How will you manage this case?

Ans:

- a) Fungal infection of nose and paranasal sinuses which is called mucormycosis.
- b) Special stains help to identify the fungus in the tissue sections.
- c) Treatment is by amphotericin B and surgical debridement of the effected tissues and control of underlying predisposing cause.

Q2: What are the possible sequel of severe trauma of the face and nose?

Ans:

- i- Swelling and edema
- ii- Nose bleeding and bleeding from other site
- iii- Hematoma formation
- iv- Abscess formation
- v- Permanent deformity

ANNUAL 2011

Q1: A 20 years old boy complains of unilateral nasal obstruction. According to him he finds difficulty in breathing out through nose. The x-ray of paranasal sinuses show hazy right maxillary sinus. He is afebrile and leucocyte count is 6000.

a) What is likely diagnosis?

b) What radiological investigation is required further?

c) What are the various treatment options?

Ans: a) Acute maxillary sinusitis

b) Investigations:

- i- Transillumination test
- ii- X-rays
- iii- Computed tomography scan

c) Treatment:

A- Medical:

- i- Antimicrobial drugs
- ii- Nasal decongestant drops
- iii- Steam inhalation
- iv- Analgesics
- v- Hot fomentation

B- Surgical:

Antral lavage

(Page 192 dhingra)

Q2 :10 year old boy presented in emergency with severe nose bleed. On clinical examination he looks pale and has fast thready pulse. Anterior rhinoscopy revealed clotted blood in right nostrils.

a) Enumerate five causes of epistaxis in such patients.

b) What investigations will you do to make a diagnosis in this patient?

Ans: a)

i) Local Causes:

1- Nose: Trauma, infection, foreign bodies, neoplasm of nose and paranasal sinuses, atmospheric changes, deviated nasal septum

2-Nasopharynx: Adenoiditis, juvenile angiofibroma, malignant tumor

ii) General causes:

- 1- Cardiovascular System: Hypertension, arteriosclerosis, pregnancy, mitral stenosis
- 2- Blood and blood vessel disorder-aplastic anemia, leukemia, thrombocytopenia, Christmas disease, scurvy, vit K deficiency,
- 3- Liver disease- liver cirrhosis
- 4- Kidney disease; chronic nephritis
- 5- Drugs-salicylates and other analgesics, anticoagulant therapy

- 6- Mediastinal compression-tumors of mediastinum
- 7- Acute general infection. Influenza, measles, chicken pox, rheumatic fever, typhoid, pneumonia, malaria and dengue fever.
- 8- Vicarious menstruation-epistaxis at the time of menstruation

b) Investigations:

- Complete blood count- Hb, TLC, DLC, PLATELET number
- Bleeding time
- Clotting time
- PPT
- APPT

(Page 176; dhingra)

Q3: A thirty year old man was hit on face and sustained nasal trauma. He presented to ENT outpatient two days later complaining of nasal blockage and tenderness on the nasal tip. Anterior rhinoscopy showed a visible swelling in both nostrils.

a) Give two likely diagnosis.

b) How will you treat this patient?

c) Which fatal complication can arise from the condition?

Ans: a) Septal hematoma, Septal abscess

b) Treatment:

Small hematoma can be aspirated with a wide bore sterile needle. Larger hematoma are incised and drained by a small anteroposterior incision parallel to the nasal floor. Excision of small piece of mucosa from the edge of the incision gives better drainage. Following drainage, nose is packed on both sides to prevent reaccumulation.

Systemic antibiotics should be given to prevent septal abscess.

c) Complications:

- Pressure necrosis of septal cartilage and bone
- Spreading of infection to cavernous sinus and into cranium
- Spreading of infection to sinuses leading to sinusitis

(Page 150 dhingra)

SUPPLY 2011

Q1: A 17 year old girl complains of nasal congestion, watery rhinorrhea, sneezing and itching throughout the year. On clinical examination she has pale, enlarged inferior turbinates.

a) What is your diagnosis?

b) How can you confirm the diagnosis?

c) What precautions she should take to avoid the house dust mite?

Ans: a) Allergic rhinitis

b) Diagnosis is confirmed by the following ways:

- 1) Total and differential count.
- 2) Nasal smear-it shows large number of eosinophilia in allergic rhinitis.
- 3) Skin tests - helps to identify allergens.
 - I- Skin prick test
 - II- Specific IgE measurement
- 4) Radioallergosorbent test (RAST)-IN VITRO test to measure specific IgE antibody concentration in patient's serum.
- 5) Nasal provocation test-crude method.

c) Precautions:

- Dust mites are present on the skin scales, bedding, mattresses, pillows, and carpets.
- Use allergy proof covers on bedding, mattresses and pillows.

- Washing beds regularly.
- If possible remove all the carpets in the bedroom.
- Where carpets cannot be removed, vacuum regularly with high filtration vacuum cleaner.
- Reduce humidity by increasing ventilation.
- If necessary use a dehumidifier to keep indoor humidity under 50 % (but over 30%).

(Page 167, 168 dhingra)

ANNUAL 2012

Q1: A 17 year old boy complains of nasal obstruction and on examination has deflected nasal septum.

a) How will you decide whether boy should have SMR or septoplasty?

b) Enumerate four complications of SMR.

Ans: a) septal surgery is not done before age of 17 so as not to interfere with the growth of nasal skeleton. Therefore SMR (Submucosal Resection) operation is performed. It is done under local anesthesia. septoplasty has now almost replaced SMR operation.

b) Complications of SMR:

- i. Bleeding
- ii. Septal hematoma
- iii. Septal abscess
- iv. Perforation
- v. Depression of bridge
- vi. Retraction of collumella
- vii. Persistence of deviation
- viii. Flapping of nasal septum
- ix. Toxic shock syndrome

(Page 149 dhingra)

ANNUAL 2013

Q1: A 40 year old patient presented to accidental and emergency department with acting nose bleeding for the last one hour.

a) What are basic principles for managing active nose bleeding?

b) What are the various methods to control nose bleeding?

c) How will you assess the general condition of the patient and treat it?

Ans: a) In any case of epistaxis, it is important to know:

- i- Mode of onset, spontaneous or finger nail trauma.
- ii- Duration and frequency of bleeding.
- iii- Amount of blood loss.
- iv- Side of nose from where bleeding is occurring.
- v- Whether bleeding is anterior or posterior type.
- vi- Any known bleeding tendency in the patient or family.

b) Methods to Control Nose Bleeding:

- i- Pinching the nose with thumb and index finger for five minutes.
- ii- Totter's method
- iii- Cold compresses
- iv- Cauterization
- v- Anterior nasal packing
- vi- Posterior nasal packing
- vii- Endoscopic cauterization
- viii- Elevation of mucoperichondral flap and submucous resection(SMR) operation
- ix- Ligation of vessels
- x- Embolization

C) Assessment of Condition of the Patient by:

- Pulse record
- Blood pressure
- Hemoglobin level

(Page 178, 179 dhingra)

Q2: Write a short note on rhinitis medica mentosa.**Ans:**

Topical decongestant nasal drops are notorious to cause rebound phenomenon. Their excessive use causes rhinitis. It is treated by withdrawal of nasal drops, short course of systemic corticosteroids therapy and in some cases, surgical reduction of turbinates, if they have become hypertrophied. This type of rhinitis is called rhinitis medica mentosa.

Q3: A hard tennis ball hit the player in the region of the eye on left side on the face and he noticed immediate nose bleeding, diplopia and pain.

- a) What do you suspect in this case?
- b) What would be your immediate action in this case?
- c) What would you look for in this patient on examination?
- d) How would you manage this case?

Ans:**a) Le Fort II maxillary fracture****b) Immediate action:**

- 1- Airway; maintenance of airway should receive the highest priority.
- 2- Haemorrhage; bleeding should be stopped by pressure or ligation of vessels.
- 3- Associated injuries; facial injuries are associated with injuries of head, chest and abdomen. They should be attended too.

c) Treatment:

Treatment of the maxillary fracture is complex.

Fixation of the maxillary fractures can be achieved by:

- i- Interdental wiring
- ii- Intermaxillary wiring using arch bars.
- iii- Open reduction and interosseous wiring as in zygomatic fractures.
- iv- Wire slings from frontal bone, zygoma or infraorbital rim to the teeth or arch bars.

SUPPLY 2013

Q1: A villager lady presented with nasal obstruction, nose bleeding and at the time nasal discharge having black coloration and blood stained for the last one year. Nose examination showed no mass and rather both nostrils found roomy and containing blackish crusts.

- a) What is provisional diagnosis?
- b) Name two other diseases which can be included in D/D in this case?
- c) Mention one diagnostic step/ test for each of the above three diseases.
- d) How will you manage this lady?

Ans: a) Atrophic rhinitis (Ozaena)**b) Differential Diagnosis:**

- i- Rhinitis sicca
- ii- mucormycosis

c) Diagnostic Steps for each:

Rhinitis sicca: diagnosis is based on clinical examination.

Mucormycosis: special stains help to identify the fungus in tissue sections.

d) Treatment:

I) Medical:

- 1- Nasal irrigation and removal of crusts
- 2- 25% glucose in glycerin
- 3- Local antibiotics
- 4- Oestradiol spray
- 5- Placental extract
- 6- Systemic use of streptomycin
- 7- Potassium iodide

II) Surgical:

- 1- Young's operation
- 2- Narrowing of the nasal cavities by following way:
- 3- Submucosal injection of Teflon paste
- 4- Insertion of fat, cartilage, bone or Teflon strips
- 5- Section and medical displacement of lateral wall of the nose

(Page 152, 153 dhingra)

Q2: Write a short note on rhinitis medica mentosa.

Ans: Already Solved. See Q2 in Annual 2013 section.

ANNUAL 2014

Q1: A 40 year old man present with nasal obstruction, postnasal drip and occasional frontal and facial pains. On examination there is marked deviation of nasal septum towards right side. The left inferior turbinate is also enlarged.

a) What is your diagnosis?

b) What will be your treatment of choice?

c) Name three main complications of septal surgery?

Ans: a) Deviated nasal septum (DNS)

b) Septoplasty

c) Complications of septal surgery:

- i- Bleeding
- ii- Septal hematoma and abscess
- iii- Septal perforation
- iv- Supratip depression
- v- Saddle nose deformity
- vi- Collumellar retraction
- vii- Cerebrospinal fluid rhinorrhea
- viii- Toxic shock syndrome.

Q2: Write a short note on rhinolith.

Ans: It is the stone formation in the nasal cavity. It usually forms around the nucleus of a small exogenous foreign body, blood clot or inspissated secretions by slow deposition of calcium and magnesium salts. Over a period of time, it grows into a large, irregular mass which fills the nasal cavity and then may cause pressure necrosis of the septum and/or lateral wall of the nose.

Clinical features:

- i- Unilateral nasal obstruction
- ii- Foul smelling discharge
- iii- Frank epistaxis
- iv- Neuralgic pain

Treatment:

It is removed under general anesthesia. Most of them removed through anterior nares. Larger ones need to be broken into pieces before removal.
Some require lateral rhinotomy.

(Page 161; dhingra)

SUPPLY 2015

Q1: A 30 year old female had road accident and presented to hospital with clear water nasal discharge, nasal obstruction and headache.

- What is most probable diagnosis?**
- What investigation you will do?**
- What is your treatment plan?**

Ans: a) CSF rhinorrhea

b)

1- Beta-2-transferrin is a protein seen in CSF not in nasal discharge. It is a sensitive and specific test and requires only a few drops of CSF. The specimen of nasal discharge is tested for this protein.

2- Beta trace protein is also specific for CSF. It is secreted by meninges and choroid plexus.

3- Reverse sign-fluid which has collected in the sinuses particularly in sphenoid empties into nose- seen on rising in the morning when patient bend his head.

4- CSF shows Double target sign when collected on a piece of filter paper. Because after head trauma, CSF is mixed with blood.

5- Glucose testing and biochemical estimation were also used in past.

6- Nasal endoscopy can also help to localize CSF in some cases.

c) Treatment:

- Conservative measures-bed rest, elevating the head of the bed, stool softener and avoidance of nose bowing and straining.
- Prophylactic antibiotic to avoid meningitis.
- Acetazolamide to decrease CSF formation.

Surgical repair:

- Neurosurgical intracranial approach.
- Extradural approaches.
- Transnasal endoscopic approach.
- CSF leak from frontal sinus often requires osteoplastic flap operation and obliteration of sinus with fat.

(Page 164; dhingra)

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Section 3: Throat

Annual 2004

Q1: Write a note on Ludwig's Angina.

Ans: Ludwig's angina is the infection of submandibular space.

Submandibular space lies between mucous membrane of the floor of mouth and tongue on one side and superficial layer of deep cervical fascia extending between the hyoid bone and the mandible on the other.

It is divided into two compartments by the mylohyoid muscle:

- i- Sublingual compartment, above the mylohyoid.
- ii- Submaxillary and submental compartment, below the mylohyoid.

Supply 2004

Q1: What are the signs and symptoms of pharyngeal diphtheria? give its differential diagnosis and its treatment.

Ans:

Signs and symptoms: Oropharynx is commonly involved and the larynx and nasal cavity may also be effected.

In the oropharynx, a grayish white membrane forms over the tonsils and spread to the soft palate and posterior pharyngeal wall. It is quite tenacious and causes bleeding when removed. Cervical lymph nodes, particularly juglodigestric become enlarged and tender, sometimes presenting a bull-neck appearance. Patient is ill and toxemic but fever seldom rises above 38°C.

Differential diagnosis:

- 1- Membranous tonsillitis
- 2- Diphtheria
- 3- Vincent angina
- 4- Infectious mononucleosis
- 5- Agranulocytosis
- 6- Leukemia
- 7- Aphthous ulcer
- 8- Malignancy tonsil
- 9- Traumatic ulcer
- 10- Candida infection of tonsil

Treatment:

Treatment of diphtheria is started on clinical suspicion without waiting for the culture report. Aim is to neutralize the free exotoxins still circulating in the blood and to kill the organisms producing this exotoxins. Dose of antitoxins is based on the site involved and the duration and severity of disease.

It is 20,000-40,000 units for diphtheria in less than 48h, or the membrane is confined to the tonsils only; and 80,000-120,000 units if disease has lasted longer than 48 h, or the membrane is extensive. Antitoxin is given by i.v infusion in saline in about 60 mint. Sensitivity to horse serum should be tested by conjunctival or intracutaneous test with diluted antitoxin and adrenaline should be at hand for any immediate hypersensitivity. In the presence of hypersensitivity desensitization should be done.

Antibiotics used are benzyl penicillin 600 mg 6 hourly for 7 days. Erythromycin is used in penicillin sensitive individuals.

Annual 2005

Q1: How will you diagnose a case of Diphtheria? what are its complications? how will you treat a patient of diphtheria?

Ans: Diagnosis of diphtheria is totally base on clinical examination of throat.

Complications:

- Exotoxins produced by C. DIPHTHERIAE is toxic to the heart and nerves. It causes myocarditis, cardiac arrhythmias and acute circulatory failure.
- Neurological complications usually appear a few weeks after infection and include paralysis of soft palate, diaphragm and ocular muscles.
- In the larynx, diphtheritic membrane may cause airway obstruction.

Treatment:

Treatment of diphtheria is started on clinical suspicion without waiting for the culture report. Aim is to neutralize the free exotoxins still circulating in the blood and to kill the organisms producing this exotoxins. Dose of antitoxins is based on the site involved and the duration and severity of disease.

It is 20,000-40,000 units for diphtheria in less than 48h, or the membrane is confined to the tonsils only; and 80,000-120,000 units if disease has lasted longer than 48 h, or the membrane is extensive. Antitoxin is given by i.v infusion in saline in about 60 mint. Sensitivity to horse serum should be tested by conjunctival or intracutaneous test with diluted antitoxin and adrenaline should be at hand for any immediate hypersensitivity. In the presence of hypersensitivity desensitization should be done.

Antibiotics used are benzyl penicillin 600 mg 6 hourly for 7 days. Erythromycin is used in penicillin sensitive individuals(500 mg 6 hourly orally).

Supply 2005

Q1: A patient presents with one year history of Sore Throat.

A: What steps will you take to arrive at a diagnosis?

B: Enumerate treatment points in each condition.

Ans:

A: Steps for Diagnosis:

- i- Culture of throat swab is helpful in the diagnosis of bacterial pharyngitis. It can detect 90% of Group A streptococci.
- ii- Diphtheriae is cultured on special media.
- iii- Swab from the suspected case of gonococcal pharyngitis should be cultured immediately without delay.
- iv- Failure to get any bacterial growth suggest a viral aetiology.

B: Treatment:

General measures:

Bed rest, plenty of fluids, warm saline gargles or pharyngeal irrigations and analgesics form the mainstay of treatment.

Local discomfort in the throat in severe cases can be relieved by lignocaine viscous before meals to facilitate swallowing.

Specific treatment:

- i- Streptococcal pharyngitis (Group A, beta-hemolyticus) is treated with penicillin G, 200,000 to 250,000 units orally four times a day for 10 days or benzathine penicillin G, 600,000 units once i.m. for patient, 60lb in weight and 1.2 million units i.m. for patient >60 lb. In penicillin sensitive individuals, erythromycin, 10-40mg/kg body weight daily, in divided oral doses for 10 days is equally effective.
- ii- Diphtheria is treated by diphtheria antitoxin and administration of penicillin or erythromycin.
- iii- Gonococcal pharyngitis respond to conventional doses of penicillin or tetracycline.

Annual 2006

Q1:

A: Name the two varieties of chronic pharyngitis.

B: Mention signs of chronic tonsillitis.

Ans:

A: Types of chronic pharyngitis:

- i- Chronic catarrhal pharyngitis
- ii- Chronic hypertrophic (granular) pharyngitis

B: Signs of chronic pharyngitis:

- i- Tonsils may show varying degree of enlargement, sometimes they meet in the midline (chronic parenchymatous type)
- ii- There may be yellowish beads of pus on the medial surface of the tonsil (chronic follicular tonsillitis)

Supply 2006

Q1:

A: Define adenoid and its location

B: What clinical features are produced by hypertrophied adenoid?

C: Mention two investigations to diagnose it.

D: How will you manage this disease?

Ans:

A: The nasopharyngeal tonsils are commonly called adenoids.

Location: It is situated at the junction of the roof and posterior wall of the nasopharynx.

B: Clinical features:

Symptoms and signs depends not merely on the absolute size of the adenoid mass but are relative to the available space in the nasopharynx.

Enlarged and infected adenoids may cause nasal, aural or general symptoms.

➤ **Nasal Symptoms:**

- 1) Nasal obstruction 2) Nasal discharge 3) Sinusitis 4) Epistaxis 5) Voice change

➤ **Aural Symptoms:**

- 1) Tubal obstruction 2) Recurrent attack of acute otitis media 3) Chronic suppurative otitis media
- 4) Serous otitis media

➤ **General Symptoms:**

- 1) Adenoid facies 2) Pulmonary hypertension 3) Aprosexia

C: Investigations:

- 1- Examination of postnasal space
- 2- Soft tissue lateral radiograph of nasopharynx

Management of disease:

When symptoms are not marked, breathing exercise, decongestant nasal drops and antihistaminics for any co-existent nasal allergy can cure the condition without resort to surgery.

When symptoms are marked, adenectomy is done.

Q2: Describe the clinical features of acute tonsillitis.

Ans:

- 1- Often the breath is foetid and tongue is coated.
- 2- There is hyperemia of pillars, soft palate and uvula.
- 3- Tonsils are red and swollen with yellowish spots of purulent material presenting at the opening of crypts (acute follicular tonsillitis) Or may be a whitish membrane on the medial surface of the tonsils which can be easily wiped away with a swab (acute membranous tonsillitis). The tonsils

may be enlarged and congested so much so that they almost meet in midline along with some oedema of the uvula and soft palate (acute parenchymatous tonsillitis)

- 4- The juglodiagestric lymph nodes are enlarged and tender.

Q3: What are the complications of acute tonsillitis?

Ans:

- 1- Chronic tonsillitis - with recurrent acute attacks. This is due to incomplete resolution of acute infection. Chronic infection may persist in lymphoid follicles of tonsil in the form of microabscesses.
- 2- Peritonsillar abscess
- 3- Parapharyngeal abscess
- 4- Cervical abscess-due to suppuration of juglodigestric lymph nodes.
- 5- Acute otitis media, recurrent attack of acute otitis media may coincide with recurrent tonsillitis
- 6- Rheumatic fever; often seen in association with tonsillitis due to Group A beta-hemolytic streptococci.
- 7- Acute glomerulonephritis
- 8- Subacute bacterial endocarditis. Acute tonsillitis in a patient with valvular heart disease may be complicated by endocarditis. It is due to streptococcus viridans infection

Q4: Write a note on treatment of acute tonsillitis

Ans: Solved Below. See Q1 in Annual 2007 section

Annual 2007

Q1:

A: What are the various types of Acute Tonsillitis?

B: How will you treat a case of Acute Follicular Tonsillitis?

Ans:

A: Types:

- 1- Acute catarrhal or superficial tonsillitis
- 2- Acute follicular tonsillitis
- 3- Acute parenchymatous tonsillitis
- 4- Acute membranous tonsillitis

B: Treatment:

- 1- Patient is put to bed and encouraged to take plenty of fluids.
- 2- Analgesics (aspirin or paracetamol) are given according to the age of patient to relieve local pain and bring down the fever.
- 3- Antimicrobial therapy; most of the infections are due to streptococcus and penicillin is the drug of choice. Patients allergic to penicillin can be treated with erythromycin. Antibiotics should be continued for 7-10 days.

Annual 2008

Q1: A child 10 year of the age has recurrent attacks of acute tonsillitis; more than five attacks per year for last three years. One examination there is a flare of anterior faucial pillar, cheesy substance coming out of tonsillar crypts and enlarged juglodigestric lymph nodes.

A: What is your clinical diagnosis?

B: What is treatment of this patient?

C: Enumerate the indications of tonsillectomy?

Ans: See Annual 2008 section in "Operative Surgery"

Annual 2010

Q1: A patient has pain on one side of throat and difficulty in opening of mouth and high grade fever. How will you proceed in this case?

Ans:

General measures:

Bed rest, plenty of fluids, warm saline gargles or pharyngeal irrigations and analgesics form the mainstay of treatment.

Local discomfort in the throat in severe cases can be relieved by lignocaine viscous before meals to facilitate swallowing.

Specific treatment:

Streptococcal pharyngitis (Group A, beta-hemolyticus) is treated with penicillin G, 200,000 to 250,000 units orally four times a day for 10 days or benzathine penicillin G, 600,000 units once i.m. for patient, 60lb in weight and 1.2 million units i.m. for patient >60 lb.

In penicillin sensitive individuals, erythromycin, 10-40mg/kg body weight daily, in divided oral doses for 10 days is equally effective.

Annual 2012

Q1: A 15 year old boy presented with progressive nasal obstruction, massive epistaxis and proptosis. Anterior rhinoscopy revealed fleshy mass in left nasal cavity and posterior rhinoscopy showed reddish mass in the postnasal space as well.

a) what is the most possible diagnosis?

b) briefly describe the investigations and treatment plan of this patient?

Ans: A: Nasopharyngeal Fibroma (Juvenile Nasopharyngeal Angiofibroma)

B: Investigation:

computed tomography (CT) scan is the investigation of choice in this case.

C: Treatment plan:

- 1) Surgery:** surgical approach used to remove angiofibroma, depending on its origin and extension, are listed below.
 - i- Transpalatine
 - ii- Transpalatine+sublabial (Sardanas' approach)
 - iii- Lateral rhinotomy with medial maxillectomy.
 - iv- Endoscopic removal
 - v- Transmaxillary (Le Fort 1) approach
 - vi- Maxillary swing operation (Wie's operation)
 - vii- Infratemporal fossa approach.
 - viii- Intracranial-extracranial approach.
- 2) Radiotherapy**
- 3) Hormonal therapy**
- 4) Chemotherapy**

Q2:

A: Name the aetiological factors of nasopharyngeal carcinoma.

B: Briefly describe the clinical features of nasopharyngeal carcinoma.

Ans:

A: Aetiological agents:

The exact cause is unknown. As the tumor is predominantly seen in adolescent males in the second decade of life, it is thought to be testosterone dependent,

Such patients have hamartomatous nidus of vascular tissue in the nasopharynx and this is activated to form angiofibroma when male sex hormone appears.

B: Clinical features:

- Profuse, recurrent and spontaneous epistaxis
- Progressive nasal obstruction and denasal speech
- Conductive hearing loss and otitis media with effusion
- Mass in nasopharynx
- Other clinical feat Clinical features: are Broadening of nasal bridge, proptosis, swelling of cheeks, infratemporal fossa and involvement of IInd, IIIrd, IVth and Vth cranial nerves will depend on the extent of tumor.

Q3: A 15 year old boy first born in the family presented with nasal obstruction and massive nose bleeds. His Hb is 6gm%.

A: Which clinical findings you will look for this patient?

B: How will you investigate him?

C: What is likely diagnosis?

Ans:

A: Clinical findings:

- Profuse, recurrent and spontaneous epistaxis
- Progressive nasal obstruction and denasal speech
- Conductive hearing loss and otitis media with effusion
- Mass in nasopharynx
- Other clinical features are Broadening of nasal bridge, proptosis, swelling of cheeks, infratemporal fossa and involvement of IInd, IIIrd, IVth and Vth cranial nerves will depend on the extent of tumor.

B: Investigations:

- 1- Computed tomography(CT) scan of the head with contrast enhancement is now the investigation of choice, it has replaced conventional radiograph.
- 2- Magnetic resonance imaging(MRI) is complemenatry to CT scan and show any soft tissue extension in infratemporal fossa and orbit.
- 3- Carotid angiography it shows extent of tumor its vascularity and feeding vessels which mostly come from the external carotid system.

C: Diagnosis:

Nasopharyngeal Fibroma(Juvenile Nasopharyngeal Angiofibroma)

Annual 2013

Q1: A 18 year old young boy presented with severe odynophagia for the last seven days, associated with high grade fever and drooling of saliva. Pain felt was mostly confined to left side of the throat and there was also difficulty in opening the mouth. Throat examination revealed a round, reddish bulge in the left tonsillar region and further detail is not possible due to pain and trismus.

A: What is possible clinical diagnosis?

B: How would you manage this case?

C: What complications are associated with this condition?

Ans: A: Peritonsillar abscesses

B: Management:

- Hospitalization
- Intravenous fluid
- Antibiotics
- Analgesics
- Oral hygiene
- Incision and drainage of the abscess
- Interval tonsillectomy
- Abscess or hot tonsillectomy

C: Complications:

- Parapharyngeal abscess
- Edema of larynx
- Septicemia
- Pneumonitis or lung abscess
- Jugular vein thrombosis
- Spontaneous haemorrhage

Q2: A boy 19 year of age comes to you with severe pain throat on right side with fever and sever dysphagia for ane day. On examination his sliva is drooling from right angle of mouth. He is unable to open his mouth properly. Throat examination shows swollen and congested right tonsils and anterior pillar. His temperature was 103F with ipsilateral otalgia, drooling and trismus. Total leukocyte count 14000/cubic cm.

a)what is the most probable diagnosis?

b)how will you treat the case?

Ans: A: Peritonsillar abscess

B: Treatment:

- 1- Hospitalization
- 2- Intravenous fluids to combat dehydration
- 3- Antibiotics-suitable antibiotics in large i.v doses to cover both aerobic and anaerobic organisms.
- 4- Analgesics like paracetamole are given for relief of pain and to lower the temperature. Sometimes, stronger analgesics like pethidine may be required. Aspirine is avoided because of danger of bleeding.
- 5- Oral hygiene should be maintained by hydrogen peroxide or saline mouth washes.

The above conservative measures may cure peritonsillitis. If a frank has formed, incision and drainage will be required.

- 1- Incision and drainage of abscess is opened at the point of maximum bulge above the upper pole of tonsil or just lateral to the point of junction of anterior pillar with a line drawn through the base of uvula. With the help of guarded knife, a small stab incision is made and then a sinus forceps inserted to open the abscess.putting the sinus forceps the following day may also be necessary to drain any reaccumulation.
- 2- Interval tonsillectomy: tonsils are removed 4-6 weeks following an attack of quinsy.
- 3- Abscess or hot tonsillectomy:

Some people prefer to do hot tonsillectomy instead of incision and drainage. Abscess tonsillectomy has the risk of rupture of the abscess during anesthesia and excessive bleeding at the time of operation.

Q3: Write a note on Ludwig's angina.

Ans: Already Solved. See Q1 in Annual 2004 section.

Supply 2014

Q1: A boy six year of the age is brought to the emergency department with low grade fever for four days. He has difficulty in breathing for last one day. On examination there is swelling of the neck. Oral cavity shows a dull membrane on the left tonsil extending onto the soft palate.

A: What is your most probable diagnosis?

B: How will you manage the patient?

Ans:

A: Faucial diphtheria

B: Treatment of diphtheria is started on clinical suspicion without waiting for the culture report. Aim is to neutralize the free exotoxins still circulating in the blood and to kill the organisms producing this exotoxins.

Dose of antitoxins is based on the site involved and the duration and severity of disease. It is 20,000-40,000 units for diphtheria in less than 48h, or the membrane is confined to the tonsils only; and 80,000-120,000 units if disease has lasted longer than 48 h, or the membrane is extensive. Antitoxin is given by i.v infusion in saline in about 60 mint.

Sensitivity to horse serum should be tested by conjunctival or intracutaneous test with diluted antitoxin and adrenaline should be at hand for any immediate hypersensitivity. In the presence of hypersensitivity desensitization should be done.

Antibiotics used are benzyl penicillin 600 mg 6 hourly for 7 days. Erythromycin is used in penicillin sensitive individuals (500 mg 6 hourly orally).

Supply 2015

Q1: A 15 year old boy presented with progressive right sided nasal obstruction and recurrent attack of profuse epistaxis for last two years and bulging of ipsilateral cheeks for last six months.

A: What is the most probable diagnosis?

B: Name investigation of choice in this case?

C: What is your treatment plan?

Ans: Already Solved. See Q1 in Annual 2012 Section.

Q1: A girl 10 year of age presented with fever and swelling in submental and submandibular region for four days. On examination skin over the swelling is red and swelling is tender. First molar teeth right lower jaw is carious.

A: What is most probable diagnosis?

B: What are causative organisms?

C: How will you manage it?

Ans: A: Ludwig's angina

B: Causative organism:

Mixed infections involving aerobes and anaerobes are common. Alpha hemolytic streptococci, staphylococci and bacteriodes groups are common.

Rarely haemophilus influenza, Escherichia coli and pseudomonas are seen.

C: Treatment:

- Systemic antibiotics
- Incision and drainage of abscess
 - i- Intraoral- if infection is still localized to sublingual space.
 - ii- External- if infection involves submaxillary space.
 - iii- Tracheostomy, if airway is endangered.

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Section 4:

ORAL CAVITY, ESOPHAGUS, THYROID GLAND

Q1: A 22yrs medical student living in hostel for the last 4 years, has repeated a history of painful ulcer in the throat during her class test and annual exams

a) What is the diagnosis?

b) Describe briefly its management

Ans: a) Aphthous ulcers

b)

- Topical application of steroids
- Cauterization with 10% silver nitrate
- In severe cases 250mg of Tetracycline in 50ml of water is given as mouth rinse four times a day
- Local pain can be relived with lignocaine viscous

Q2: A thirty five old lady, having history of pan chewing for the last 15 years ,gradually developed dysphagia for solids and trismus.

a) What is the diagnosis?

b) What is the management?

Ans: a) Oral submucosal Fibrosis (OSF)

b) Medical:

- Local Steroids
- avoid irritant factors, e.g. areca nuts, pan ,tobacco
- treat existing anemia
- Encourage jaw opening exercise

Surgical:

- Simple release of fibrosis and skin grafting
- Bilateral skin flap
- Nasolabial flaps
- Island palatal mucoperiosteal flap
- Bilateral radial foramen free flap
- Surgical excision and buccal fat padgraft
- Superficial temporal fascia flap and split skin graft
- Coronoidectomy and temporal muscle myotomy

Q3: Two years old child brought to medical emergency dept with the history of ingestion of five rupees coin.

a) How will you manage the case?

b) Complications of the procedure carried out on this patient?

Ans: a)

Follow the ABC:

- oesophagosopic removal of the coin
- if not possible than go for
- Cervical oesophagotomy
- Transthoracic esophagotomy

b) Complications:

- injury to lip and teeth
- injury to arytenoids
- injury to pharyngeal mucosa

- perforation of esophagus
- compression of trachea

Q4: Old person presented in accident emergency department with complain of complete dysphagia and odynophagia. He is attributing his complain to dislodging his denture in the morning.

- a) What procedure would you adopt to help this patient?
- b) What complications are associated with initial procedure?
- c) If the initial procedure is ineffective than what is the other option?
- d) What other indications you know about initial procedure?

Ans: a) Oesophagoscopy removal

b) Complications:

- 1) injury to lip and teeth
- 2) injury to arytenoids
- 3) injury to pharyngeal mucosa
- 4) perforation of esophagus
- 5) compression of trachea

c) Other Options:

- Cervical oesophagotomy
- Transthoracic esophagotomy

d) Indications:

Diagnostic:

To investigate the cause of:

- Dysphagia
- Retrosternal burning
- Haematemesis
- Secondaries neck with unknown primary

Therapeutic

- Removal of foreign bodies
- Dilatation in case of esophagus stricture
- Endoscopic removal of benign lesion
- Insertion of suttar's or mousseau
- Injection of esophageal varices

Q5: A 40 years female suffering from progressive dysphagia for solids and dyspnea .her clinical examination revealed koilonychia pallor and loss of laryngeal crepitus.

- a) What is the diagnosis?
- b) How will you manage the case?

Ans:

a) Plummer Vinson Syndrome

b) Management:

- To treat the anemia oral parenteral iron , associated b12 and B6 deficiency should be corrected
- Dilatation of the webbed area by esophageal bougies.

Q6: a) Enumerate normal narrowing in food passage.

b) What are causes of pathologic strictures in esophagus?

Ans: a)

- At pyrangoesophageal junction (c6)----15cm from the upper incisors
- At crossing of arch of aorta and left main bronchus (t4) 25cm from the upper incisors
- Where it pierce the diaphragm (t10) ----40 cm from the upper incisors

b)

- Burn due to corrosive substance
- Trauma to esophageal wall due to impacted foreign body or instrumentation or external injury
- Ulceration due to reflux esophagitis
- Ulceration due to diphtheria and typhoid
- Site of surgical anastomosis
- Congenital, usually in lower third

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Section 5: LARYNX

Annual 2003

Q1: Write short note on causes of (L) recurrent NERVE PALSY?

Ans:

These are

- Carcinoma of bronchus
- Carcinoma of the cervical and thoracic esophagus
- Carcinoma of thyroid gland
- Operative trauma from throidectomy, radical neck dissection, pharyngeal pouch removal, cricopharyngeal myotomy, ligation of patent ductus and other cardiac and pulmonary surgery.
- Mediastinal nodes or tumours, e.g. Hodgkin's disease
- Any enlargement of the left atrium, e.g. mitral stenosis
- Peripheral neuritis
- Aortic aneurysm

OTHER CAUSES MAY BE

- High vagal lesions
- Systemic causes i.e. Diabetes, syphilis, diphtheria, typhoid, streptococcal or viral infections, lead poisoning
- Idiopathic

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Annual 2004

Q1: How will you investigate a fifty years old man who presents with hoarseness of voice?

Ans:

Investigations:

- History.** Mode of onset and duration of illness, patient's occupation, habits and associated complaints are important and would often help to elucidate the cause. Any hoarseness persisting for more than three weeks deserves examination of larynx. Malignancy should be excluded in patients above 40 years.
- Indirect laryngoscopy.** Many of the local laryngeal causes can be diagnosed.
- Examination of neck, chest, cardiovascular and neurological system** would help to find cause for laryngeal paralysis.
- Laboratory investigations and radiological examination** should be done as perdictates of the cause suspected on clinical examination.
- Direct laryngoscopy and microlaryngoscopy** help in detailed examination, biopsy of the lesions and assessment of the mobility of cricoarytenoid joints.
- Bronchoscopy and oesophagoscopy** may be required in cases of paralytic lesions of the cord to exclude malignancy.

Reference Dhingra Page 289 4th edition

Annual 2005

Q1: A Fifty years old man presents with hoarseness. His hospital record shows T₃N₁M₀ lesion of left vocal cord. How will you manage this case? Enumerate the Carcinoma Larynx?

Ans:

Treatment:

In the UK cure is achieved with radiotherapy in over 95% of T1 cases. If there is no recurrence, the patient will have good voice but if there is a recurrence surgery will be necessary. Either a HEMIARYNGECTOMY or a TOTAL LARYNGECTOMY may be offered. A Hemilaryngectomy involves the removal of half of thyroid cartilage with the false or true vocal cords, part of supraglottis and upper half of

cricoids cartilage. The resulting gap is closed by the strap muscles, fashioned so as to form new fixed vocal cords. If a hemilaryngectomy is used as a salvage procedure after failed radiotherapy the results will be poorer than if it had been used as primary treatment. It does, however, give the patient a chance of keeping some sort of voice instead of having to learn oesophageal speech after total laryngectomy. Lymph node is also removed surgically through radical neck surgery.

Carcinoma Larynx:

1. Leucoplakia
2. Supraglottic cancer
3. Glottic cancer
4. Transglottic cancer
5. Subglottic cancer

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Supply 2005

Q1: What are the causes of left recurrent LARYNGEAL NERVE PALSY? How will you confirm the diagnosis in such a case?

Ans:

- a) **Already solved. See Q1 in Annual 2003**
- b) **Diagnosis:**

The diagnosis in such case is mainly done on the basis of SYMPTOMS and Laryngoscopy and is confirmed on the basis of two theories which are

1. Simons' theory
2. Wagner and Grossman's theory

Simons' theory

In all progressive organic lesions of the centres and trunks of motor laryngeal nerves, the fibers supplying the ABDUCTORS of the vocal cord become involved much earlier than do the ADDUCTORS.

Wagner and Grossman theory

A high lesion of the vagus nerve will leave the paralyzed cord further from the midline (Paramedian) than the paralysis of the recurrent laryngeal nerve.

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Annual 2006

Q1:

- a) **What are Vocal Nodules?**
- b) **Give the etiology and clinical features of this condition.**
- c) **What is its prevention?**

Ans:

- a) **Vocal Nodules:**

They appear symmetrically on the free edge of vocal cord, at the junction of anterior one-third, with the posterior two-thirds, as this is the area of maximum vibration of the cord and thus subject to maximum trauma. Their size varies from that of pin-head to half a pea.

- b) **Etiology:**

They are the result of vocal trauma when person speaks in unnatural low tones for prolonged periods or at high intensities. They mostly affect teachers, actors, vendors or pop singers. They are also seen in school going children who are too assertive and talkative.

Clinical Features

Patients with vocal nodules complain of hoarseness. Vocal fatigue and pain in the neck on prolonged phonation are other common symptoms.

- c) **Prevention:**

Speech therapy and re-education in voice production are essential to prevent this disease.

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Annual 2007

Q1: A Four year old child presents in emergency with Inspiratory stridor and drooling of saliva. He feels somewhat comfortable only in sitting position. His temperature is 102C.

- What is the likely Diagnosis?
- Which investigations are required to confirm the diagnosis?
- Which antibiotic will you prescribe?
- How will you secure the airway?

Ans:

a) Diagnosis:

Acute epiglottitis

b) Investigations:

- Indirect laryngoscopy may show oedema and congestion of Supraglottic structure.
- Lateral soft tissue X-ray of neck may show swollen epiglottis (thumb sign).

c) Antibiotic:

Ampicillin or third generation cephalosporin are effective.

d) Airway:

- Intubation or tracheostomy.
- Bronchoscopy.
- Oxygen Inhalation.

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Annual 2008

Q1: A male 50 years of age presented with Hoarseness of voice for 6 months. It is progressive. On indirect laryngoscopy there is a mass on the right vocal cord which extends supraglottically across the ventricle of the larynx. The right hemilarynx is fixed. There is no neck nodes and no evidence of distant metastasis.

- What is probable diagnosis?
- How will you confirm your diagnosis and stage the disease?
- How will you manage the patient?

Ans:

a) Diagnosis:

Carcinoma of larynx

b) Confirmation of Diagnosis:

- History
- Indirect laryngoscopy
 - Appearance of lesion
 - Vocal cord mobility
 - Extend of disease

3) Examination of neck

To find out extra laryngeal spread of disease

4) Radiography

Chest X-ray, soft tissue lateral view neck, contrast laryngogram

5) CT scan

6) Direct laryngoscopy

7) Microlaryngoscopy

8) Biopsy

Stage:

**c) Management:**

Already solved. See Q1 in Annual 2005

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Annual 2009

Q1: A 3 year old fit boy started having sore throat which developed into dysphagia quickly. Inspiratory stridor with drooling of saliva followed soon. The child looks terrified and feels comfortable only in sitting and leaning forward position.

- What is the probable diagnosis?**
- How will you secure the airway in this patient?**
- Name three other conditions which can easily mimic this clinical picture?**

Ans:

- Acute epiglottitis
- Already solved. See Q1 in Annual 2007.
- Laryngomalacia
Retropharyngeal abscess
Laryngeal web

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Annual 2010

Q1: A 2 year old baby boy is having a fever of 101F. The child is having BARKING COUGH.

- What is the pathophysiology of this disease?**
- What is its natural history?**
- How do you treat it?**

Ans:

- Acute Laryngo-Tracheo-Bronchitis

Pathophysiology:

Mostly, it is viral infection (parainfluenza type I and II) affecting children between 6 months to 3 years of age. The loose areolar tissue in the Subglottic region swells up and causes respiratory obstruction and stridor. This coupled with thick tenacious secretions and crusts, may completely occlude the airway.

b) History:

Disease starts as upper respiratory infection with hoarseness and croupy/Barking cough. There is fever of 39-40 C. This may be followed by difficulty in breathing and Inspiratory type of stridor. Respiratory difficulty may gradually increase with signs of upper airway obstruction, i.e. suprasternal and intercostal recession.

c) Treatment:

- Hospitalization is often essential because of the increasing difficulty in breathing.
- Antibiotics like ampicillin 50 mg/kg/day in divided doses are effective against secondary infections due to gram-positive cocci and H. influenzae.
- Humidification helps to soften crusts and tenacious secretions which block tracheobronchial tree.
- Parenteral fluids are essential to combat dehydration.
- Steroids, e.g. hydrocortisone 100mg i.v. may be useful to relieve oedema.
- Adrenaline, racemic adrenaline administered via a respirator is a bronchodilator and may relieve dyspnoea and avert tracheostomy.
- Intubation/tracheostomy is done, should respiratory obstruction increase in spite of the above measures. Tracheostomy is done if intubation is required beyond 48 hours. Assisted ventilation may be required.

Q2:

a) What is the etiology of carcinoma larynx?

b) What is the treatment?

Ans:

a) **Etiology:**

Both **tobacco and alcohol** are well established risk factors in laryngeal cancer. Cigarette smoke contains benzopyrene and other hydrocarbons which are carcinogenic in man. Combination of alcohol and smoking increases the risk 15-folds compared to each factor alone (2-3 folds). Previous **radiation** to neck for benign lesions or laryngeal papilloma may induce laryngeal carcinoma. Japanese and Russian workers have reported cases of familial laryngeal malignancy incriminating **genetic factors**. **Occupational exposure** to asbestos, mustard gas and other chemical or petroleum products has also been related to the genesis of laryngeal cancer but without conclusive evidence.

b) Already solved. See Q1 in Annual 2005

Annual 2011

Q1: A 2 year old child presented in pediatric emergency room with severe Inspiratory stridor for the last 24 hours in the month of December.

a) Give 3 likely causes of stridor?

b) Give 3 ways of securing his airway?

c) Give radiological investigation with positive findings in each diagnosis?

Ans:

a) **Causes:**

- Inspiratory stridor is often produced in obstructive lesions of supraglottis or pharynx, e.g. laryngomalacia or retropharyngeal abscess.
- Expiratory stridor is produced in lesions of thoracic trachea, primary and secondary bronchi, e.g. bronchial foreign body, tracheal stenosis.
- Biphaseic stridor is seen in lesions of glottis, subglottis and cervical trachea, e.g. laryngeal papillomas, vocal cord paralysis and subglottis stenosis.

b) **Ways Of Securing Airway:**

- Direct Laryngoscopy
- General anesthesia followed by Bronchoscopy
- Microlaryngoscopy
- Tracheostomy in some types

c) **Radiological Investigations:**

- X-ray of chest and soft tissue neck both in anteroposterior and lateral views.
- Fluoroscopy to see chest movements both during inspiration and expiration.
- Tomography of chest for Mediastinal mass.
- Oesophagogram with lipoidal for atresia of oesophagus, tracheobronchial fistula or aberrant vessels.
- Angiography, if aberrant vessels are suspected.
- Xeroradiography is useful to show soft tissue lesions in the neck.
- CT scan.

Q2:

A 40 year old lady teacher, Married, has 5 children and complains of hoarseness for last 6 months.

a) Enumerate 4 causes of Hoarseness of voice?

b) How will you treat vocal nodules?**Ans:****a) Causes:**

<u>Inflammation</u>	
Acute	Acute laryngitis usually following cold, influenza, exanthematous fever, laryngo-tracheo-bronchitis, diphtheria.
Chronic	<p>1) Specific. Tuberculosis, syphilis, scleroma, fungal infections.</p> <p>2) Non-specific. Chronic laryngitis, atrophic laryngitis</p>
<u>Tumors</u>	
Benign	Papilloma (solitary and multiple), haemangioma, chondroma, fibroma, leukoplakia.
Malignant Tumor like masses	Carcinoma Vocal nodule, vocal polyp, angiofibroma, amyloid tumor, contact ulcer, cysts, laryngocele
Trauma	Submucosal haemorrhage, laryngeal trauma (blunt and sharp), foreign bodies, intubation
Paralysis	Paralysis of recurrent, superior laryngeal or both nerves
Fixation of cords	Arthritis or fixation of cricoarytenoid joints
Congenital	Laryngeal web, cyst, laryngocele
Miscellaneous	Dysphonia plica ventricularis, myxoedema, gout
Functional	Hysterical aphonia

b) Treatment:

Early cases of vocal nodules can be treated conservatively by educating the patient in proper use of voice. With this treatment, many nodules in children disappear completely. Surgery is required for large nodules or nodules of long-standing in adults. They are excised with precision under operating microscope avoiding any trauma to the underlying vocal ligament.

Page 303 and Page 313 Dhingra**Supply 2011**

Q1: A 4 year old child was brought to emergency room with severe stridor. On examination he had fever, looked very ill, and was cyanotic. He was comfortable only in sitting position.

- What is the most likely Diagnosis?**
- Which radiological investigation will you order and what will be positive finding on it?**
- Which organism is responsible for this condition?**
- How will you treat him?**

Ans:

- Acute epiglottitis
- Already solved. See Q1 of Annual 2007.
- Organism:**

H. influenzae

d) **Treatment:**

- **Hospitalization.** Essential because of the danger of respiratory obstruction.
- **Antibiotics.** Ampicillin or third generation cephalosporin are effective against H. influenzae and are given by Parenteral route (I.M. or I.V.) without waiting for results of throat swab and blood culture.
- **Steroids.** Hydrocortisone or dexamethasone is given in appropriate doses I.M. or I.V. They relieve oedema and may obviate need for tracheostomy.
- **Adequate hydration.** Patient may require parenteral fluids.
- **Humidification and oxygen.** Patient may require mist tent or a croupette.
- **Intubation or tracheostomy** may be required for respiratory obstruction.

Page 289-290 DHINGRA

Annual 2012

Q1:

- a) Enumerate 4 Causes of stridor in a 4 year old child who is not febrile?
- b) What are clinical features of LARYNGOMALACIA?

Ans:

a) **Causes:**

- Papillomatosis
- Injury
- Foreign body
- Laryngeal edema
- Adenotonsillar hypertrophy

b) **Laryngomalacia:**

It is characterized by excessive flaccidity of supraglottic larynx which is sucked in during inspiration producing stridor and sometimes cyanosis. Stridor is increased on crying but subsides on placing the child in prone position; cry is normal. The condition manifests at birth or soon after and usually disappears by 2 years of age.

Page 295-296 Dhingra

Q2: A 70 years old male patient complaints of hoarseness for last 3 years. He does not cooperate for indirect laryngoscopy. His chest X-ray is normal.

- a) What are available methods for examination of his larynx?
- b) What is treatment for T₁N₀M₀ glottic carcinoma?
- c) List 3 side effects of radiotherapy?

Ans:

a) **Methods For Examination:**

- **Radiography**
 - i. X-ray chest is essential for co-existent lung disease (e.g. tuberculosis), pulmonary metastasis or mediastinal nodes.
 - ii. Soft tissue lateral view neck. Extent of lesions of epiglottis, aryepiglottic folds, arytenoids and involvement of pre-epiglottic space may be seen. Destruction of thyroid cartilage may be seen. This is now superseded by CT scan and MRI.
 - iii. Contrast laryngograms. Radio-opaque dye, dionosil, is instilled into the larynx. Laryngograms outline the surface extent of tumours. This investigation has now been replaced by CT scan.
 - iv. CT scan. It is a very useful investigation to find the extent of tumor, invasion of pre-epiglottic or paraepiglottic space, destruction of cartilage and lymph node involvement
- **Direct laryngoscopy**

- **Microlaryngoscopy**
- **Supravital staining and biopsy**

b) Already solved. See Q1 in Annual 2005.

c) **Side Effects**

Early	LATE
<ul style="list-style-type: none"> • Radiation sickness • Mucositis • Dryness of mucus membranes • Skin reactions • Hematopoietic suppression 	<ul style="list-style-type: none"> • Permanent xerostomia • Decaying of teeth • Osteoradionecrosis • Endocrinal defects • Trismus

Page 310-311 Dhingra

Annual 2013

Q1: A young teacher presented with hoarseness of voice for the last six months and she is engaged in teaching for last 5 years. Her voice is persistently hoarse and is not being relieved by the medication of the primary health care physician?

- What do you suspect in this case and what are different possibilities?
- How do you investigate this case?
- How will you manage this case?

Ans:

A) This is a case of voice strain also known as Phonasthenia.

Other possibilities are

- 1) Inflammation like acute or chronic laryngitis, influenza, laryngo-tracheo-bronchitis, atrophic laryngitis
- 2) Any kind of benign or malignant tumor
- 3) Trauma
- 4) Paralysis of vocal cords

B) Investigations:

- 1) CBC+ESR
- 2) X-RAY
- 3) CT Scan
- 4) Indirect laryngoscopy
- 5) Direct laryngoscopy

C) Management:

- 1) Vocal rest for 1 to 2 week
- 2) Periods of voice rest after excessive use
- 3) Vocal hygiene
- 4) Consult to speech therapist for further evaluation

Page 290 Dhingra and page 155 Logan and turner

Supply 2013

Q1: A young child from a village, learning the holy QURAN by heart for the last one year, is brought to the E.N.T OPD for having hoarse voice for last 6 months. Since then he is not getting better by the treatment of local primary health care person.

- What pathology or cause you expect in this case?
- What definitive procedure is required to develop this pathology?
- How would you manage this child?

Ans:

- Vocal nodules

b) Pathology:

Pathologically, trauma to the vocal cord in the form of vocal abuse or misuse causes oedema and haemorrhage in the submucosal space. This undergoes hyalinization and fibrosis. The overlying epithelium also undergoes hyperplasia forming a nodule. In early stages, the nodules appear soft, reddish and edematous swellings but later become grayish or white in color.

c) Already Solved. See Q1 of Annual 2006 and Q3 of Annual 2011

Annual 2014

Q1: A 70 years old male with carcinoma of larynx and stridor for last 2 months is brought to emergency department. An urgent Tracheostomy is carried out and when trachea is opened and tracheostomy tube is placed in the trachea it is observed that patient is not breathing.

- a) What has happened to the patient?**
- b) What is cause of this condition?**
- c) How will you manage this patient?**

Ans:

- Apnoea
- This follows opening of trachea in a patient who had prolonged respiratory obstruction. This is due to sudden washing out of CO₂ which was acting as a respiratory stimulus.
- Treatment is to administer 5% CO₂ in oxygen or assisted ventilation.

Q2: A 2 year old boy while playing with his toys developed sudden choking. He is cyanosed and has intense Inspiratory stridor when brought to emergency room. How will you manage him?

Ans:

Management:**Laryngeal foreign body:**

A large bolus of food obstructed above the cords may make the patient totally aphonic, unable to cry for help. He may die of asphyxia unless immediate first aid measures are taken. The measures consist of pounding on the back, turning the patient upside down and following Heimlich maneuver. These measures should not be done if patient is only partially obstructed, for fear of causing total obstruction.

Heimlich's maneuver. Stand behind the person, and place your arms around his lower chest and give four abdominal thrusts. The residual air in the lungs may dislodge the foreign body providing some airway.

Cricothyrotomy or emergency tracheostomy should be done if Heimlich's maneuver fails. Once acute respiratory emergency is over, foreign body can be removed by direct laryngoscopy or by laryngofissure, if found impacted.

Tracheal and bronchial foreign bodies:

These can be removed by bronchoscopy with full preparation and under general anesthesia. Emergency removal of these foreign bodies is not indicated unless there is airway obstruction or they are of the vegetable nature (e.g. seeds) and likely to swell up.

Methods to remove tracheobronchial foreign body:

- Conventional rigid bronchoscopy.
- Rigid bronchoscopy with telescopic aid.
- Bronchoscopy with C-arm fluoroscopy.
- Use of Dormia basket or Fogarty's balloon for rounded objects.
- Tracheostomy first and then bronchoscopy through the tracheostome.
- Thoracotomy and bronchotomy for peripheral foreign bodies.
- Flexible fibre optic bronchoscopy in selected adult patients.

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Q3: A 6 year old child presents with high grade fever, dysphagia and stridor. On examination he is sitting and leaning forward with dribbling of saliva. He is looking toxic. He has had history of flu three days ago.

- What is most probable diagnosis?**
- Give its differential diagnosis?**
- How will you manage it? Enumerate four steps of management?**

Ans:

- Acute epiglottitis.
- Laryngomalacia
Retropharyngeal abscess
Laryngeal web

c) Treatment:

- **Hospitalization.** Essential because of the danger of respiratory obstruction.
- **Antibiotics.** Ampicillin or third generation cephalosporin are effective against H. influenzae and are given by Parenteral route (I.M. or I.V.) without waiting for results of throat swab and blood culture.
- **Steroids.** Hydrocortisone or dexamethasone is given in appropriate doses I.M. or I.V. They relieve oedema and may obviate need for tracheostomy.
- **Adequate hydration.** Patient may require parenteral fluids.
- **Humidification and oxygen.** Patient may require mist tent or a croupette.
- **Intubation or tracheostomy** may be required for respiratory obstruction.

Supply 2014

Q1: A male 50 years of age presents with hoarseness of voice for two months which is progressive. Patient is smoker for 30 years. Indirect laryngoscopy shows a mass on the right vocal cord which is mobile. There is no significant extension of the mass. There are no neck nodes.

- What is most probable diagnosis?**
- How will you prove your diagnosis?**
- What are the treatment options?**

Ans: Vocal nodules. Already solved.

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Section 6: OPERATIVE SURGERY

Annual 2003

Q1: What are the complications of adenoidectomy?

Ans: Following are the complications of adenoidectomy

- 1) Hemorrhage occurs in immediate post operative period, nose and mouth full of blood dark colored vomitus, raising pulse, post nasal pack under general anesthesia is often required
- 2) Injury to eustachian tube opening
- 3) injury to pharyngeal musculature and vertebrae, due to hyperextension of neck under pressure of curette
- 4) grisel syndrome
- 5) neck pain
- 6) Torticollis due to spasm of paraspinal muscles, can also be due to atlantoaxial dislocation
- 7) Nasopharyngeal stenosis: occurs due to scarring
- 8) Recurrence: due to regrowth of adenoid tissue left behind

Supply 2004

Q1: What are aims and objectives of tracheostomy? Describe its complications and name its different types.

Ans:

Objectives:

- 1) It is an alternative path for breathing
- 2) Improves alveolar ventilation
- 3) Protects the airways
- 4) Permits the removal of tracheobronchial secretions
- 5) Intermittent positive pressure respiration
- 6) To administer anesthesia

Complications:

Immediate:

- 1) Hemorrhage
- 2) Apnoea : Patients with prolonged respiratory obstructions, occurs due to sudden washing out of CO₂
- 3) Pneumothorax due to apical pleura injury
- 4) Injury to recurrent laryngeal nerves
- 5) Aspiration of blood
- 6) Injury to esophagus: occurs with tip of knife while incising the trachea and may result in fistula

Intermediate:

- 1) Bleeding
- 2) Displacement of tube
- 3) Blocking of tube
- 4) Subcutaneous emphysema
- 1) Tracheitis
- 6) Atelactasis
- 7) Lung abscess
- 8) Local wound infection and granulations

Late:

- 1) Hemorrhage due to erosion of major vessel
- 2) Laryngeal stenosis due to perichondritis of cricoid cartilage
- 3) Tracheal stenosis due to tracheal ulceration and infection
- 4) Tracheoesophageal fistula due to prolonged use of cuffed tube or erosion of trachea by tip of tracheostomy tube
- 5) Decannulation problems
- 6) Tracheostomy scar
- 7) Corrosion of tracheostomy tube and aspiration of its fragments into tracheobronchial tree

Types of Tracheostomy:

- 1) Emergency tracheostomy
- 2) Elective or tranquil tracheostomy

- 3) Permanent tracheostomy
- 4) Percutaneous dilatational tracheostomy
- 5) Mini tracheostomy (cricothyroidotomy)

Q2: Name 3 indications of tonsillectomy and discuss about hemorrhages and how will you manage them

Ans:

Absolute Indications:

- 1) Recurrent infections of throat
- 2) 7 or more episodes in 1 year
- 3) 5 episodes per year for 2 years
- 4) 3 episodes per year for 3 years
- 5) 2 weeks or more of lost school in one year
- 6) Peritonsillar abscess
- 7) Tonsillitis
- 8) Hypertrophy of tonsils
- 9) Suspicion of malignancy

Relative Indications:

- 1) Diphtheria carriers who don't respond to antibiotics
- 2) Streptococcal carriers who may be the source of infections to others
- 3) Chronic tonsillitis with bad taste or halitosis which is unresponsive to treatment
- 4) Recurrent streptococcal tonsillitis in a patient with valvular heart disease

As A Part of Other Operations:

- 2) Palatopharyngeoplasty which is done for sleep apnea syndrome
- 3) Glossopharyngeal neurectomy
- 4) Removal of styloid process

Management of Post Tonsillectomy Hemorrhages:

1. Primary: can be controlled by

- 1) Pressure 2) ligation 3) electrocoagulation

2. Secondary: can be controlled by

- 1) Removal of clots
- 2) Topical application of dilute adrenaline or H₂O₂
- 3) Electrocoagulation
- 4) Mattress sutures for approximation of pillars
- 5) External carotid ligation in case of uncontrolled bleeding

3. Reactionary:

- 1) Pressure 2) vasoconstrictor application 3) Removal of clots
- If above fails then ligation and electrocoagulation

Annual 2005

Q1: What are complications of tonsillectomy? How will you manage various kinds of post tonsillectomy hemorrhage?

Ans: Complications of tonsillectomy are divided into immediate and delayed complications

Immediate Complications:

- 1) Primary hemorrhage: occurs at time of operation
- 2) Reactionary hemorrhage: occurs within a period of 24 hours
- 3) injury to tonsillar pillars, uvula, soft palate: due to bad surgical technique
- 4) Injury to teeth
- 5) Aspiration of blood
- 6) Facial edema
- 7) Surgical emphysema: rarely occurs because of injury to superior constrictor muscle

Delayed Complications:

- 1) Secondary hemorrhage: seen between 5 to 10 postoperative days. It is the result of sepsis and premature separation of membranes
- 2) Infection of tonsillar fossa may lead to par pharyngeal abscess or otitis media
- 3) Lung complications: Aspiration of blood, mucus or tissue fragments may cause lung abscess or atelectasis
- 4) scarring of soft palate and pillars
- 5) Tonsillar remnants: tonsillar tags or tissues left behind during surgery may get infected repeatedly
- 6) Hypertrophy of lingual tonsil: it is compensatory to loss of palatine tonsil

Management of Post Tonsillectomy Hemorrhages:**1. Primary:** can be controlled by

- 1) Pressure 2) ligation 3) electrocoagulation

2. Secondary: can be controlled by

- 1) Removal of clots
- 2) Topical application of dilute adrenaline or H_2O_2
- 3) Electrocoagulation
- 4) Mattres sutures for approximation of pillars
- 5) External carotid ligation in case on uncontrolled bleeding

3. Reactionary:

- 1) Pressure 2) vasoconstrictor application 3) Removal of clots
- If above fails then ligation and electrocoagulation

Annual 2006**Q1: Give indications and complications of bronchoscopy?**

Ans: Indications of bronchoscopy.

Diagnostic:

- 1) To find the cause of wheezing ,hemoptysis or unexplained cough persistent for more than weeks when XRAY chest shows atelectasis of a segment, lobe or entire lung
- 2) Opacity localized to a segment or a lobe
- 3) Obstructive emphysema-to exclude foreign body
- 4) Hilar or mediastinal shadows
- 5) Vocal cord palsy
- 6) Collection of bronchial secretion for culture and sensitivity tests, acid fast bacilli, fungus and malignant cells

Therapeutic:

- 1) Removal of foreign bodies 2) removal of retained secretions or mucus plugs

Complications:

- 1) injury to teeth and lips 2) Hemorrhage from biopsy site 3) Hypoxia and cardiac arrest
- 4) Laryngeal edema

Q2: Name the complications of tonsillectomy?

Ans: Already solved. See Annual 2005 section.

Supply 2006**Q1: Enumerate indications of tonsillectomy?**

Ans: Already solved. See Supply 2004 section

Annual 2007**Q1: How will you manage secondary post tonsillectomy hemorrhage?**

Ans: Already Solved. See Annual 2005 section.

Supply 2007

Q1: Outline main objectives of tracheostomy

B: Enumerate various complications of this procedure?

Ans: Already solved. See Supply 2004 section

Annual 2008

Q1: A child 10 yr of age has recurrent attacks of acute tonsillitis more than 5 attacks per year for 3 years .Examinations shows anterior facial flare ,cheesy substance coming out of crypts and enlarged juglodiagastic lymph nodes.

A: What is your diagnosis?

B: 1: what is the treatment for this patient?

2: What are indications for tonsillectomy?

C: What is primary hemorrhage, secondary hemorrhage and reactionary hemorrhage?

Ans:

A: Chronic Follicular Tonsillitis

B: Already solved. See in supply 2006 section

C:

Primary hemorrhage occurs at time of operation

Reactionary hemorrhage occurs within a period of 24 hours

Secondary hemorrhage is seen between 5 to 10 postoperative days. It is the result of sepsis and premature separation of membranes

Annual 2009

Q2: A 70 years old man, smoker is suffering from hoarseness of voice for last 2 years. Recently he developed noisy breathing and at times spells of respiratory distress. But for last 2 days respiratory distress was persistent compelling the family to seek medical advice in accident and emergency department.

a) What will be your immediate action?

b) How will you execute your action?

c) What complications can occur during the process/procedure?

d) How will you manage the patient further?

Ans:

a) Tracheostomy

b) Procedure:

- A vertical incision is made in the midline of neck, extending from cricoid cartilage to just above the sternal notch. This is the most favored incision and can be used in emergency and elective procedures. It gives rapid access with minimum of bleeding and tissue dissection. A transverse incision, 5 cm long, made 2 fingers' breadth above the sternal notch can be used in elective procedures. It has the advantage of a cosmetically better scar.
 - After incision, tissues are dissected in the midline. Dilated veins are either displaced or ligated.
 - Strap muscles are separated in the midline and retracted laterally.
 - Thyroid isthmus is displaced upwards or divided between the clamps, and suture-ligated.
 - A few drops of 4% lignocaine are injected into the trachea to suppress the cough when trachea is incised.
 - Trachea is fixed with a hook and opened with a vertical incision in the region of 3rd and 4th or 3rd and 2nd rings. This is then converted into a circular opening. The first tracheal ring is never divided as perichondritis of cricoid cartilage with stenosis can result.
-

- Tracheostomy tube of appropriate size is inserted and secured by tapes (see page 406 for different types and size of tracheostomy tubes).
 - Skin incision should not be sutured or packed tightly as it may lead to development of subcutaneous emphysema.
 - Gauze dressing is placed between the skin and flange of the tube around the stoma.
- c) Already solved. See Q1 in Supply 2004 of this section.
- d) Already Solved. See Q1 in Annual 2005 of Larynx section.

Supply 2009

Q1: A 13 yrs old girl complaints of permanent nasal obstruction. Examination reveals that septum is deviated o right side with some hypertrophy of inferior turbinate. Her HB is 10 gm

A: What is best surgical treatment for her?

B: What is the difference BW SMR and septoplasty?

Ans: A) Septoplasty

B) Septoplasty is a conservative approach as much of the septal framework is retained and usually mucoperichondrial flap is raised on side only.

- C)**
- 1) Bleeding
 - 2) Septal hematoma
 - 3) Septal abscess
 - 4) Perforation
 - 5) Depression of bridge
 - 6) Retraction of collumella: often seen caudal strip of cartilage is not preserved
 - 7) Persistence of deviation: because of inadequate surgery
 - 8) Flapping of nasal septum: occurs when too much of septal framework has been removed
 - 9) Toxic shock syndrome

Q2: Describe the complications of tracheostomy?

B: What is laryngectomy and how it is performed?

Ans: Already solved. See supply 2004 section

B)

Ans: Laryngectomy is the removal of larynx along with some of the surrounding structures. The entire larynx including hyoid bone, pre epiglottic space, strap muscles and one or more rings of trachea are removed. Pharyngeal wall is repaired and lower tracheal stump sutured to the skin for breathing.

Annual 2010

Q1:

a) What are the complications of tracheostomy?

b) How do you treat them?

ANS

- a) Already Solved.
- b) Treatment:**
 Depends upon situation hemorrhage can be treated by electro-cauterizing the bleeding vessel. Surgeon should take care while putting tube so that it does not cause any damage to surrounding tissues. Post-op caring steps should be followed strictly.

Supply 2010

Q1: 13 yrs old girl complaints of permanent nasal obstruction. Examination reveals that septum is deviated on right side with some hypertrophy of inferior turbinate. Her HB is 10 gm

A: What is best surgical treatment for her?

B: What is the difference between SMR and septoplasty?

C: Enumerate complications of SMR

Ans: Already solved. See supply 2009 section.

Annual 2010

Q1:

a) What are the complications of tracheostomy?

b) How do you treat them?

Ans:

a)

See Operative surgery section.

b) Treatment:

Depends upon situation hemorrhage can be treated by electro-cauterizing the bleeding vessel. Surgeon should take care while putting tube so that it does not cause any damage to surrounding tissues. Post-op caring steps should be followed strictly.

Annual 2011

Q1: Enumerate Complications of tracheostomy?

Ans: Already Solved.

Supply 2011

Q1: What is postoperative nursing care of tracheostomy patient?

Ans:

POST OP NURSING

1. **Constant supervision.** After tracheostomy, constant supervision of the patient for bleeding, displacement or blocking of tube and removal of secretions is essential. A nurse or patient's relative should be in attendance. Patient is given a bell or a paper pad and a pencil to communicate.
2. **Suction.** Depending on the amount of secretion, suction may be required every half an hour or so; use sterile catheters with a Y-connector to break suction force. Suction injuries to tracheal mucosa should be avoided. This is done by applying suction to the catheter only when withdrawing it.
3. **Prevention of crusting and tracheitis.** This is achieved by:
 - (a) Proper humidification, by use of humidifier, steam tent, ultrasonic nebulizer or keeping a boiling kettle in the room.
 - (b) If crusting occurs, a few drops of normal or hypotonic saline or Ringer's lactate are instilled into the trachea every 2-3 hours to loosen crusts. A mucolytic agent such as acetylcysteine solution can be instilled to liquefy tenacious secretions or to loosen the crusts.
4. **Care of tracheostomy tube.** Inner cannula should be removed and cleaned as and when indicated for the first 3 days. Outer tube, unless blocked or displaced, should not be removed for 3-4 days to allow a track to be formed when tube placement will become easy. After 3-4 days, outer tube can be removed and cleaned every day.

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Annual 2012

Q1: A 17 years old boy has a complain of nasal obstruction and on examination has deflected nasal septum

A: How will u decide whether to do an SMR or septoplasty?

B: Enumerate four complications of SMR

Ans: A) septoplasty is a conservative approach as much of the septal framework is retained and usually mucoperichondrial flap is raised on side only.

B:

- 1) Bleeding
- 2) Septal hematoma
- 3) Septal abscess
- 4) Perforation
- 5) depression of nasal bridge

Q2: Enumerate 4 methods of tonsillectomy

Ans:

Cold Methods:

- 1) Dissection and snare
- 2) guillotine method
- 3) harmonic scalpel
- 4) cryosurgical technique

Hot Methods:

- 1) Electrocautery radiofrequency
- 2) laser tonsillectomy
- 3) coblation tonsillectomy
- 4)

Q2: What are the indications of tracheostomy?

B: What are the disabilities of patients having tracheostomy?

Ans:

A:

1. Respiratory Obstructions:

- i) Infections: Acute laryngotracheobronchitis, diphtheria, acute epiglottitis, Ludwig's angina, peritonsillar or retropharyngeal or parapharyngeal or tongue abscess
- ii) Trauma: External injury of larynx and trachea, endoscopic trauma, fractures of mandible and maxillofacial injuries
- iii) Neoplasms: Benign and malignant neoplasms of trachea, larynx, pharynx, tongue and thyroid
- iv) Foreign body larynx
- v) Edema of larynx
- vi) Bilateral abductor paralysis
- vii) Congenital anomalies: laryngeal web, cysts, tracheoesophageal fistula, bilateral choanal atresia

2. Retained Secretions:

- i) Inability to cough: Coma of any cause e.g. head injuries, CVA, narcotic overdose, respiratory muscle paralysis e.g. spinal injuries, polio, myasthenia gravis, spasm of respiratory muscle, tetanus, eclampsia, strychnine poisoning
- ii) Painful cough: Chest injuries, multiple rib fractures, pneumonia
- iii) Aspiration of pharyngeal secretions: Bulbar polio, polyneuritis, bilateral laryngeal paralysis

3. Respiratory Insufficiency: Chronic lung conditions

B: Disabilities of Tracheostomy:

- The patient cannot speak properly
- The patient cannot eat
- Needs suction frequently
- Needs to be monitored

Annual 2013

Q1:

An old patient visited the E.N.T OPD and could not speak due to insertion of tracheostomy tube.

- a) What is purpose of the tracheostomy tube?
- b) Describe important indications for this operation?
- c) What are major complications of this operation?

Ans

- a) Tracheostomy is making an opening in the anterior wall of trachea and converting it into a stoma on the skin surface. The purpose of tracheostomy tube is to maintain secure airway passage to the lungs if there is any obstruction in upper airway passage.

b) Indications

- To relieve upper airway obstruction
- To facilitate bronchial toilet
- To decrease dead space
- To assist ventilation
- As an elective procedure in head and neck surgery

c) Complications

A) Immediate (at the time of operation)

- 1) Hemorrhage.
- 2) Apnoea. This follows opening of trachea in a patient who had prolonged respiratory obstruction. This is due to sudden washing out of CO₂ which was acting as a respiratory stimulus. Treatment is to administer 5% CO₂ in oxygen or assisted ventilation.
- 3) Pneumothorax due to injury to apical pleura.
- 4) Injury to recurrent laryngeal nerves.
- 5) Aspiration of blood. 6. Injury to oesophagus. This can occur with tip of knife while incising the trachea and may result in tracheo-oesophageal fistula.

B) Intermediate (during first few hours or days):

- 1) Bleeding, reactionary or secondary.
- 2) Displacement of tube.
- 3) Blocking of tube.
- 4) Subcutaneous emphysema.
- 5) Tracheitis and tracheobronchitis with crusting in trachea.
- 6) Atelectasis and lung abscess.
- 7) Local wound infection and granulations.

C) Late (with prolonged use of tube for weeks and months):

- 1) Haemorrhage, due to erosion of major vessel.
- 2) Laryngeal stenosis, due to perichondritis of cricoid cartilage.
- 3) Tracheal stenosis, due to tracheal ulceration and infection.
- 4) Tracheo-oesophageal fistula, due to prolonged use of cuffed tube or erosion of trachea by the tip of tracheostomy tube.
- 5) Problems of decannulation. Seen commonly in infants and children.
- 6) Persistent tracheocutaneous fistula.
- 7) Problems of tracheostomy scar. Keloid or unsightly scar.
- 8) Corrosion of tracheostomy tube and aspiration of its fragments into the tracheobronchial tree

Reference chapter 62 Dhingra 4th edition and chapter

Supply 2015

Q1: Enumerate at least two complications of radical mastoidectomy.

Ans: 1) Facial paralysis 2) perichondritis of pinna 3) injury to dura or sigmoid sinus
4) Labyrinthitis 5) severe conductive deafness of 50db or more: due to removal of all ossicles and tympanic membrane cavity problems

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THE END



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