**STANDARD TREATMENT**

**GUIDELINES**

**OTORHINOLARYNGOLOGY**

**(ENT)**

**ALLERGIC RHINITIS**

Allergic rhinitis is allergic inflammation of nasal airways.

**PREVENTION AND COUNSELLING**

Environmental control measures and allergen avoidance by reducing outdoor exposure during pollen season. For indoor allergens:

Covering mattresses with impermeable covers

Washing of bed linen every two weeks in hot water

Avoidance of exposure to pets

**OPTIMAL DIAGNOSTIC CRITERIA, INVESTIGATIONS, TREATMENT**

CLINICAL DIAGNOSIS: the diagnosis is essentially based on history. The basic evaluation

should include:

1. Complete ENT examination

2. Nasal examination for condition of nasal mucosa and polyps if any.

3. Evaluation of respiratory system to exclude asthma

INVESTIGATIONS:

1. Complete blood count,

2. Absolute eosinophil count.

3. X Ray of paranasal sinuses.

4. CT Scan of paranasal sinuses

5. Other investigations based on associated conditions

TREATMENT:

1. OUT PATIENT: Nasal decongestants, nasal steroid sprays, oral steroids: for refractory cases and those with asthma.

INPATIENT:

1. Surgical procedures like septoplasty, adenoidectomy with or without

Grommet insertion, Endoscopic sinus surgery, polypectomy may be required.

2. Manangement of comorbities.

**DEVIATED NASAL SEPTUM (DNS)**

Deviated Nasal Septum is deflection of nasal septum from midline.

Deviated Nasal Septum (DNS) may be caused by birth trauma, trauma to face during life or due to asymmetric growth of cartilages and bones of nose. They may present with nose block, recurrent nasal discharge, infections of nose and sinuses, bleeding from nose or headaches. In gross DNS, there may be a concomitant deviation of external nose also.

**PREVENTION AND COUNSELLING**

DNS cannot be prevented. Minor deviations do not require treatment. Symptomatic DNS can be corrected by surgery through the nostrils under Local or General Anaesthesia.

Surgery is usually done after the age of 16 years when the facial growth is complete.

Surgery in younger patients may be undertaken if grossly symptomatic and not amenable to medical management for nasal obstruction.

In septoplasty, the deviated portion of the nasal septum is removed. The nose is packed for

1 -2 days to prevent bleeding. Patient is discharged after removal of packs. The nose takes 1-2 weeks to heal completely.

**OPTIMAL DIAGNOSTIC CRITERIA, INVESTIGATIONS, TREATMENT & REFERRAL CRITERIA**

CLINICAL DIAGNOSIS: The diagnosis of DNS is made on:

1. History of facial trauma if any

2. Complaints of nasal obstruction, discharge, bleeding or headache

3. Complete ENT examination

4. Nasal examination including anterior rhinoscopy and Cold Spatula Test.

5. Evaluation of extent and site of trauma to face if any

INVESTIGATIONS:

1. Complete blood count,

2. Bleeding and clotting time.

3. X Ray of paranasal sinuses

4. X Ray of nasal bones in trauma.

5. Other investigations based on general clinical condition

TREATMENT:

1. OUT PATIENT: Associated conditions causing nasal obstruction can be treated

Medically as outpatient with:

Antihistaminics oral or nasal sprays

Monteleukast, Levocetrizine, Phenylephrine.

Steroid nasal sprays

Antibiotics for nasal and sinus infections

2. DAY CARE:

Removal of foreign body or rhinolith from nose.

Anterior nasal packing for bleeding from nose.

Septoplasty surgery may be performed as day care if adequate facility for

Post op care is available at home.

3. INPATIENT:

Septoplasty.

Manangement of comorbities.

Rhinoplasty for external deviation of nose

**EPISTAXIS**

Epistaxis is bleeding from nose. Blood may flow anteriorly or go posterior. It may be clotted or flow from nose. Nose bleeds are common as nose is rich in blood supply and is prominent on the face. Most epistaxis is minor and is managed at home. Only a small percentage comes for medical attention.

PREVENTION AND COUNSELLING

Keeping the nasal mucosa moist in dry climates by douching with water, applying creams and nasal sprays

Nose pinching tightly for 10-20 minutes.

Ice can be applied locally.

After the epsitaxis is controlled, patient is advised not to blow nose, keep the nasal mucosa

moist and blood pressure under control.

**OPTIMAL DIAGNOSTIC CRITERIA, INVESTIGATIONS, TREATMENT & REFERRAL CRITERIA**

CLINICAL DIAGNOSIS: When the epistaxis is not controlled with local pressure for over 20

min, expert medical care is required. The basic evaluation should include:

1. Pulse, BP monitoring,

2. General evaluation of clinical condition

3. Complete ENT examination

4. Nasal examination to identify cause and site of bleeding.

5. Evaluation of extent and site of trauma to face if any

INVESTIGATIONS:

1. Complete blood count,

2. Bleeding and clotting time, coagulation profile, blood biochemistry.

3. X Ray of paranasal sinuses and nasal bones or Contrast enhanced CT scan of paranasal sinuses in trauma.

4. Other investigations based on general clinical condition

TREATMENT:

1. OUT PATIENT: General condition of the patient is stabilized.

2. DAY CARE:

If the site of bleeding is identified, chemical or electrocautery is done to

stop the bleeding after tropical decongestion.

If not, then anterior nasal packing is done with ribbon gauze soaked in

Liquid paraffin and antibiotic solution, gelfoam or hemostatic sponge. The

Packs are kept in place for two to three days.

3. INPATIENT:

It the bleeding still continues, a posterior nasal packing with gauze or

Foley’s catheter may be done.

Management of comorbities.

Nasal Endoscopic examination under Local/ General Anaesthesia to identify cause and site of bleeding followed by endoscopic electro cautery.

Septoplasty if required. Biopsy and / or excision of tumor if any.

REFERRAL CRITERIA:

1. Midface fractures would require a maxillofacial consultation.

2. Other co morbidities requiring appropriate cross consultations.

**BRANCHIAL CYST**

Branchial cleft cysts are congenital epithelial cysts, which arise on the lateral part

of the neck from a failure of obliteration of the second branchial cleft in embryonic

development. Phylogenetically, the branchial apparatus is related to gill slits. (*Branchia* is Greek

for gills).

OPTIMAL DIAGNOSTIC CRITERIA, INVESTIGATIONS, TREATMENT & REFERRAL CRITERIA CLINICAL DIAGNOSIS**:**

Diagnosis is usually made clinically. Many branchial cleft cysts are asymptomatic. Depending on the size and the anatomical extension of the mass, local symptoms, such as neck swelling, dysphagia, dysphonia, dyspnea, and stridor may occur.

A branchial cyst commonly presents as a solitary, painless mass in the neck of a child or a young adult. A history of intermittent swelling and tenderness of the lesion during upper respiratory tract infection may exist. Discharge may be reported if the lesion is associated with a sinus tract. Branchial cysts are smooth, non-tender, fluctuant, translucent masses, which occur along the lower one third of the antero-medial border of the sternocleidomastoid muscle between the muscle and the overlying skin. Secondary branchial cleft cyst lesion: The lesion may be tender if secondarily inflamed or infected. When associated with a sinus tract, mucoid or purulent discharge onto the skin or into the pharynx may be present.

INVESTIGATIONS:

1. Fine-needle aspiration may be helpful to distinguish branchial cleft cysts from malignant neck masses. Fine-needle aspiration and culture may help guide antibiotic therapy for infected cysts.

2. A sinogram may be obtained. If a sinus tract exists, radio-opaque dye can be injected to delineate the course and to examine the size of the cyst.

3. Ultrasonography helps to delineate the cystic nature of these lesions.

4. A contrast-enhanced CT scan shows a cystic and enhancing mass in the neck. It may aid preoperative planning and identify compromise of local structures.

5. MRI allows for finer resolution during preoperative planning. The wall may be enhancing on gadolinium scans.

TREATMENT: Surgical excision is definitive treatment for branchial cleft cysts. A series of

horizontal incisions, known as a stair step or stepladder incision, is made to fully dissect out the

occasionally tortuous path of the branchial cleft cysts

STANDARD OPERATING PROCEDURE: As in patient surgery should be performed

**BRANCHIAL FISTULA**

Branchial fistulas are uncommon anomalies of embryonic development of branchial apparatus. Second branchial arch and pouch anomalies are common anomalies of branchial apparatus.

OPTIMAL DIAGNOSTIC CRITERIA, INVESTIGATIONS, TREATMENT & REFERRAL CRITERIA CLINICAL DIAGNOSIS:

1. History - Diagnosis is usually made clinically. Patient complains of mucopurulent discharge from an opening in lower lateral part of neck.

2. Examination – A small punctum in the skin at the junction of upper two third and lower one third of anterior border of sternocleidomastoid muscle.

INVESTIGATIONS:

The tract of fistula can be diagnosed by a dye test or fistulogram and sometimes negative preoperative test might become positive under general anaesthesia because of muscle relaxation.

Occasionally the fistula tract may be blocked by thick secretions or granulation tissue.

TREATMENT: Surgical excision

STANDARD OPERATING PROCEDURE: As in patient surgery should be performed

**MOUTH ULCERS**

Mouth ulcers are sores or open lesions in the mouth and caused by many disorders. These include: Canker sores, gingivostomatitis, Herpes simplex, Leukoplakia, Oral cancer, Oral lichen planus, Oral thrush

The skin lesion of histoplasmosis may also appear as a mouth ulcer.

Canker sores are more common in young adults than in children or older adults.

SYMPTOMS

1. Open sores in the mouth

2. Pain or discomfort in the mouth

The appearance and exact location of lesions varies with the specific disorder.

SIGNS AND TESTS

Diagnosis of mouth ulcer, based on its appearance and location. Blood tests or a biopsy of the ulcer may be needed to confirm the cause.

TREATMENT

The goal of treatment is to relieve symptoms. The cause, if known, should be treated. Gentle,

thorough oral hygiene may relieve some of the symptoms. Topical (rubbed on) antihistamines,

antacids, corticosteroids, or other soothing preparations may be recommended for applying

directly to the ulcer. Avoid hot or spicy foods, which often increase the pain of mouth ulcers.

**ACUTE PAROTITIS**

Parotitis is an inflammation of one or both parotid glands, the major salivary glands located on either side of the face, in humans. The parotid gland is the salivary gland most commonly affected by inflammation.

SYMPTOMS

Abnormal tastes, foul tastes

Decreased ability to open the mouth

.Dry mouth

Fever

Mouth or facial pain, especially when eating

Redness over the side of the face or the upper neck

Swelling of the face (particularly in front of the ears, below the jaw, or on the floor of the mouth)

SIGNS AND TESTS

An examination shows enlarged salivary glands. Pus may drain into the mouth. The gland may be painful, particularly with bacterial infections. Viral infections such as mumps may cause painless swelling of the glands. A CT scan or ultrasound may be done if the doctor suspects an abscess.

TREATMENT

In some cases, no treatment is necessary.

If there is pus or a fever, or if the infection is known or thought to be bacterial, antibiotics may be prescribed. Antibiotics are not effective against viral infections.

If there is an abscess, surgical drainage or aspiration may be done.

Good oral hygiene, with thorough tooth brushing and flossing at least twice per day, may aid

healing and help prevent an infection from spreading. If you are a smoker, stop smoking as it

helps in recovery.

Warm salt water rinses (1/2 teaspoon of salt in one cup of water) may be soothing and keep the

mouth moist. Drink lots of water and use sugar-free lemon drops to increase the flow of saliva and reduce swelling. Massaging the gland with heat may help.

**SUBMANDIBULAR SIALADENITIS**

The submandibular gland, along with the parotid and sublingual glands, comprise the major

salivary glands. The minor salivary glands are scattered along the upper aerodigestive tract,

including the lips, mucosa of the oral cavity, pharynx, and hard palate.

The submandibular gland is the second largest (approximate weight, 10 g) of the major salivary

glands (the parotid gland is the largest). Anatomically, it is situated in the submandibular

triangle of the neck.

DEFINITION:

Sialadenitis of the submandibular gland is a relatively commonly encountered yet infrequently

discussed topic. Causes range from simple infection to autoimmune etiologies.

CAUSES

Acute sialadenitis

Chronic sialadenitis

Sialolithiasis

Autoimmune sialadenitis

Sialadenosis

INVESTIGATIONS

1.Ultrasonography

2.Sialography

3.Computed tomography scanning

4.Magnetic resonance imaging

5.Fine-needle aspiration and biopsy

TREATMENT :

One management scheme is as follows:

Acute sialadenitis

1.Medical management - Hydration, antibiotics (oral versus parenteral), warm

compresses and massage, sialogogues

2. Surgical management - Consideration of incision and drainage versus excision of the gland in cases refractory to antibiotics, incision and drainage with abscess formation, gland excision in cases of recurrent acute sialadenitis

Salivary calculi

1. Medical management - Hydration, compression and massage, antibiotics for the

infected gland

2. Surgical management - Duct cannulation with stone removal, gland excision in

recurrent cases

**THYROGLOSSAL DUCT CYST AND FISTULA**

Thyroglossal duct cyst is a rare but occasional cause of a benign midline neck

mass resulting from the dilatation of a remnant tract at the site where the primitive thyroid descended from its origin at the base of the tongue to its permanent location, low in the neck. Failure of

subsequent closure and obliteration of this tract predisposes to thyroglossal cyst formation.

The thyroglossal duct cyst may rupture spontaneously and present

as a draining sinus.

**Optimal Diagnostic Criteria, Investigations, Treatment & Referral Criteria**

**Clinical Diagnosis:** a palpable asymptomatic midline neck mass at or below the level of the hyoid

bone moving with swallowing and on protrusion of tongue; neck or throat pain, or dysphagia

**Investigations:**

1. Fine needle aspiration cytology

2. Ultrasound,thyroid function tests to ensure nomal thyroid gland

**Treatment:** Excision (Sistrunks operation). The intimate association of the tract with hyoid

bone mandates simultaneous removal of the central portion of the hyoid bone to ensure

complete removal of the tract.

**Standard Operating Procedure**: As in patient the surgery should be performed

**ACUTE LARYNGOTRACHEO BRONCHITIS**

Acute laryngotracheo bronchitis or Croup is most of the times a viral infection caused by

parainfluenza type 1 and 2 virus in children between 6months to 3years of age. Secondary

bacterial infection by gram positive cocci may occur.

Clinical diagnosis:

Hoarseness of voice, croupy cough, fever, inspiratory stridor, suprasternal, intercostal

recession. Steeple sign on anteroposterior and thumb sign on lateral radiograph of neck. Examination of larynx is avoided, it may precipitate complete obstruction.

Investigations:

Complete blood count,serum electrolytes, radiograph of neck and chest.

Treatment:

Intravenous antibiotics, humidification, parenteral fluids, steroids to relieve oedema, racemic

adrenaline via respirator, intubation/tracheostomy if respiratory obstruction increases despite

of medical management. Tracheostomy if intubation is required beyond 72hours.

**ADENOIDITIS**

Adenoiditis is the infection of the adenoids. Enlarged and infected adenoids may cause nasal

obstruction, mouth breathing, nasal discharge, sinusitis, epistaxis, change of voice, Eustachian

tube blockage leading to conductive hearing loss, recurrent attacks of acute otitis media, serous

otitis media, typical facial appearance known as adenoid facies, pulmonary hypertension in long

standing cases.

Clinical Diagnosis:

History, general examination, local examination with posterior rhinoscopy mirror, flexible or

rigid nasopharyngoscope, lateral radiograph nasopharynx.

Investigations:

Complete blood count, blood grouping, prothombin time, bleeding time, clotting time, serum

electrolytes, renal and liver function tests, x-ray chest and nasopharynx, electrocardiogram.

Treatment:

When symptoms are not marked breathing exercises, decongestant nasal drops, steroid spray and

antihistaminics. When symptoms are marked adenoidectomy is done.

Adenoidectomy is the standard operating procedure. Done under general anesthesia with oral

intubation. Boyle davis mouth gag is inserted, adenoids palpated digitally and removed with the

help of adenoid curette with and without guard. Hemostasis is achieved by packing the area for

sometime.

**CHRONIC LARYNGITIS**.

**Chronic Laryngitis Without Hyperplasia**

It is a diffuse inflammatory condition symmetrically involving the whole larynx, i.e. true cords,

ventricular bands, and root of the epiglottis.

It may follow incompletely resolved acute simple laryngitis or its recurrent attacks, chronic infection in paranasal sinuses, teeth and tonsils, occupatonal exposure to dust and fumes such as in miners, strokers, gold or iron smiths and workers in chemical industries, smoking and alcohol, persistent trauma of cough as in chronic lung disease, vocal abuse.

**Clinical Features:** Hoarseness, constant hawking**,** discomfort in the throa, dry and irritating cough.

**Treatment**

1. Eliminate infection of upper or lower respiratory tract. Infection in the sinuses, tonsils,

teeth or chronic chest infection should be treated.

2. Avoidance of irritating factors, e.g.smoking, alcohol or polluted environment.

3. Voice rest and speech therapy. Voice rest has to be prolonged for weeks or months.

4. Steam inhalations. They help to loosen secretions and give relief.

5. Expectorants. They help to loosen viscid secretions and give relief from hawking.

**Chronic Hypertrophic laryngitis**

It may be either a diffuse and symmetrical process or a localised one, the latter appearing like a tumour of the larynx.

**Clinical features**

This disease mostly affects males (8:1) in the age group of 30-50 years.

Hoarseness, constant desire to clear the throat, dry cough and discomfort in throat when the voice has been used for an extended period of time.

Examination:

On examination, changes are often diffuse and symmetrical.

Laryngeal mucosa, in general, is dusky red and thickened.

Vocal cords appear red and swollen.

Ventricular bands appear red and swollen and may be mistaken for prolapsed or eversion of the

ventricle.

Mobility of cords gets impaired due to oedema and infiltration, and later due to muscular

atrophy or arthritis of the cricoarytenoid joint.

**Treatment**

Conservative: Same as for chronic laryngitis without hyperplasia.

Surgical: Stripping of vocal cords, removing the hyperplastic and oedematous mucosa, may be

done in selected cases. Damage to underlying vocal ligament should be carefully avoided. One

cord is operated at a time.

**BENIGN LESIONS OF LARYNX**

**TYPES**

Solid lesions: vocal nodule, vocal polyp, Reinke’s oedema, contact ulcer, intubation granuloma, leukoplakia or keratosis

Cystic lesions

**Vocal cord nodule**

Vocal cord nodule is a mass of tissue that grows on the vocal folds (vocal cords). Typically this

mass will appear on the junction of the anterior one-third and middle two-thirds of the vocal fold, where contact is most forceful.

**Vocal cord polyp**

A polyp is usually a red or reddish lesion that has a sharp margin and is clearly different from

surrounding tissue. It can be either broad-based or narrow-necked. It may be smooth and

round, or it may have lobes. Polyps may occur singly or in pairs, one on each

vocal fold directly opposite one another. Almost always, they occur at the midpoint of the vocal

fold.

**Reinke's edema** also known as polypoid degeneration, is the swelling of the vocal folds due to

fluid collection (edema).

**Granuloma**

A granuloma is a benign growth that results from irritation or trauma. It is usually found at the

back of the vocal fold, over a part of cartilage called the vocal process which lies just

underneath the membrane covering the larynx.

**Contact granuloma**, also known as a **contact ulcer**, is a condition where an ulcer is found in the

vocal fold due to sustained periods of increased pressure

on the vocal folds, and is commonly seen in people who use their voice excessively.

Gastroesophageal reflux disease is also thought to be a contributing factor in the development

of contact ulcers.

**Treatment :**

Voice rest

To remove the source of the irritant (e.g. smoking cessation, vocal rest, etc.).

Microlaryngoscopic surgery

**DEEP NECK SPACE INFECTION**

Deep neck space infections most commonly arise from a septic focus of the mandibular teeth,

tonsils, parotid gland, deep cervical lymph nodes, middle ear, or sinuses.

Deep neck space infections often have a rapid onset and can progress to life-threatening

complications.

**CLINICAL FEATURES**

Peritonsillar, parotid, parapharyngeal, and submandibular abscesses are generally

associated with sore throat and trismus (the inability to open the jaw).

Examination: swelling of the face and neck, erythema, and purulent oral discharge, pooling of saliva in the mouth and asymmetry of the oropharynx. Lymphadenopathy is usually present.

Dysphagia and odynophagia are secondary to inflammation of the cricoarytenoid joints.

Dysphonia and hoarseness are late findings in neck infections and may indicate

involvement of the tenth cranial nerve

Unilateral tongue paresis indicates involvement of the twelfth cranial nerve.

Stridor and dyspnea signify airway obstruction and may be manifestations of local

pressure or spread of infection to the mediastinum.

**INVESTIGATIONS**

IMAGING

Computed tomography (CT) is the imaging modality of choice for the diagnosis of deep neck

space infections as an invaluable tool for planning and guiding aspiration for culture or open drainage.

Magnetic resonance imaging (MRI) is useful for assessing the extent of soft tissue involvement

and for delineating vascular complications

Plain radiography is of limited utility for the evaluation of deep neck space infections; it is

sometimes helpful for detecting retropharyngeal swelling or epiglottitis

**TREATMENT** — Appropriate antibiotics in conjunction with surgical drainage of loculated

infection are essential for a successful outcome of deep neck space infections.

Management of complications- patient may require intubation or tracheostomy in case airway obstruction develops.

**FOREIGN BODY IN AERODIGESTIVE TRACT**

Foreign body aspirated into air passage can lodge in the larynx, trachea or bronchi. Children

below 4 years are more often affected. Non irritating foreign bodies like plastic, glass or metalls

may remain symptomless for a long time. Irritating foreign bodies (vegetative) like peanuts,

beans, seeds, etc gives a diffuse violent reaction leading to congestion and oedema of

tracheobronchial mucosa-vegetal bronchitis

**Symptoms**:

Choking, gaging, wheezing: lasts for short time. Foreign body can be cuffed out or it may lodge in larynx or tracheobronchial tree.

Symptomless interval

Later symptoms depend on site of its lodgement:

→Laryngeal: Large foreign body complete can lead to sudden death

Partial: pain, hoarseness, croupy cough, aphonia, dyspnoea, wheezing and hemoptysis.

→Tracheal: loose- palpatory thud, audible slap

→Bronchial: Right>left. Can lead to atelectasis or check valve

Diagnosis:

Xray, CT scan, bronchograms

**Management**: antibiotics, steroids

**Laryngeal Foreign Body:**

In complete obstruction pound on back, turn patient upside down, follow Heimlichs

Manoeuvre

If this fails: Cricothyrotomy or emergency tracheostomy

Once acute respiratory emergency is over: Direct laryngoscopy/ laryngofissure

Tracheal/Bronchial Foreign bodies:

→Conventional rigid Bronchoscope

→Rigid Bronchoscope with telescopic aid

→Flexible Fibre optic bronchosopy

oesophagoscopy

**GOITRE**

A goitre is a swelling in the thyroid gland which can lead to a swelling of the neck or larynx. Goitre rarely occurs when the thyroid gland is functioning properly. Worldwide, over 90% cases of goitre are caused by iodine deficiency.

CLINICAL FEATURES:

Goiter associated with hypothyroidism or hyperthyroidism may present with symptoms of the

underlying disorder although the symptoms are often unspecific and hard to diagnose.

Goiter not associated with hormonal abnormalities will not cause any symptoms aside from the

presence of anterior neck mass. However, for particularly large masses, compression of the

local structures may result in difficulty in breathing or swallowing. In those presenting with

these symptoms, malignancy must be considered.

Toxic goiters will present with symptoms of thyrotoxicosis such as palpitations, hyperactivity,

weight loss despite increased appetite, and heat intolerance.

TREATMENT :

Goiter caused by suspected iodine deficiency is treated by a combination of

levothyroxine and iodine supplementation depending on thyroid hormone levels.

Treatment may not be necessary if the goiter is small. Goiter may be related to hyper- and

hypothyroidism (especially Graves' disease) and may be reversed by treatment. Graves' disease

can be corrected with antithyroid drugs (such as propylthiouracil and methimazole),

thyroidectomy (surgical removal of the thyroid gland), and iodine-131. Hypothyroidism may

raise the risk of goiter because it usually increases the production of TRH and TSH.

Levothyroxine, used to treat hypothyroidism, can also be used in euthyroid patients for the

treatment of goitre. Levothyroxine suppressive therapy decreases the production of TRH and

TSH and may reduce goiter, thyroid nodules, and thyroid cancer. Blood tests are needed to

ensure that TSH is still in range and the patient has not become subclinically hyperthyroid. If

TSH levels are not carefully monitored and allowed to remain far below the lower limits of

normal (below 0.1 mIU/L or IU/mL), there is epidemiologic evidence that levothyroxine may

increase the risk of osteoporosis and both hip and spinal fractures. (Such low levels are

therefore not intentionally produced for long periods, except occasionally in the treatment of

TSH-dependent thyroid cancers). Thyroidectomy with 131I may be necessary in euthyroid goitrous patients who do not respond to levothyroxine treatment, especially if the patients have difficulty breathing or swallowing. 131I, with or without the pre-injection of synthetic TSH, can relieve obstruction and reduce the size of the goitre by thirty to sixty-five percent. Depending on how large the goitre is and how much of the thyroid gland must be removed or destroyed, thyroidectomy and/or 131I treatment may destroy enough thyroid tissue as to produce hypothyroidism, requiring life-long treatment with thyroid hormone pills.

**LARYNGOPHARYNGEAL REFLUX (LPR)**

Laryngopharyngeal reflux (LPR) refers to retrograde flow of gastric contents to the upper aero digestive tract. Although heartburn is a primary symptom among people with gastroesophageal reflux disease (GERD), heartburn is present in fewer than 50% of the patients with LPR.

CLINICAL FEATURES:

Hoarseness, postnasal drip, sore throat, difficulty swallowing, indigestion, wheezing, chronic cough, globus pharyngeus and chronic throat-clearing.

DIAGNOSIS :

Laryngoscopic findings - erythema, edema, laryngeal granulomas, and interarytenoid hypertrophy

(nonspecific)

Upper GI endoscopy, if indicated

TREATMENT :

proton pump inhibitors

dietary advise and lifestyle modification

reassurance and counselling

cessation of smoking

**ACUTE PHARYNGITIS**

It is acute inflammation of pharynx caused by – Rhinovirus, Influenza, Parainfluenza, Measles, Chickenpox, Herpes simplex virus, Streptococcus, Diphtheria, Gonococcus, Candida albicans

CLINICAL FEATURES

Mild phyaryngitis : Discomfort in throat, malaise, low grade fever

Moderate to severe : Pain in throat ,malaise, dysphagia, headache, high fever, pharynx show

erythema, exudates, enlargement of tonsils and lymphoid follicles on the posterior phayryngeal wall

Very severe : Oedema of soft palate and uvula with enlargement of cervical nodes

DIAGNOSIS

Culture of throat swab is helpful in the diagnosis of bacterial pharyngitis.

TREATMENT

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

Specific treatment :

Streptococcal pharyngitis treated with penicillin G

Diphtheria is treated with penicillin and arythromycin

Gonococcal treated with tetracyclin

Fungal pharyngitis : Nystatin is the drug of choice

**CARCINOMA ORAL CAVITY**

Tumours of lips and oral cavity often present a significant problem to the surgeon with regards

to early diagnosis and staging, access for resection and reconstruction of both soft tissues and

bone. Tumour of lips are now included within the UICC classification for oral cavity tumours.

PREDISPOSING FACTORS-



-

. The combined effect of alcohol and cigarette is synergistic.

- it cause damage to buccal mucosa.











SYMPTOMS OF ORAL CANCER-

White or red patches in your mouth

A mouth sore that won't heal

Bleeding in mouth

Loose teeth

Problems or pain with swallowing

A lump in neck

An earache

EVALUATION-

HISTORY & EXAMINATION - Almost 90% of the cancers are of squamous cell variety. Buccal

mucosa is the most common site affected in India. The sump area or ‘coffin corner’ at the

posterior tongue/ floor of the mouth is a common site for cancer but may be missed by cursory

inspection. So, a through history and physical examination is very important for its early

detection.

2. Biopsy can be taken at OPD if lesion is large otherwise it can be taken under GA.

3. Endoscopies can be carried out to rule out other synchronous malignancy.

4. Chest imaging, CT/MRI if indicated.

5. Preanesthesia studies.

6. Dental evaluation.

TREATMENT PROTOCOL- surgery, palliative therapy.

PREVENTIVE MEASURES-

Don't smoke. Don't drink more than 1 or 2 alcoholic drinks, if any, a day

Sick immediate attention to doctor in chronic non-healing ulcer mouth

Maintain adequate oral/dental hygiene.

**CARCINOMA HYPOPHARYNX**

Hypopharynx is a highly important anatomical site as physiologically it is a component upper aero-digestive tract and it also represents a common conduit for both respiration and deglutition. Hence, any tumor or treatment of tumors in this area will produce disturbances in swallowing and inevitable aspiration. Tumors arising in this area often present in advanced state and so, key to cure lies in early and accurate diagnosis and prompt treatment.

Tumors of PFS can be divided into those which primarily involve the lateral wall or the

medial wall. Those arising from medial wall are more extensive and involve AE fold and

paraglottic space and can therefore fix the hemilarynx on that side. Occasionally it can involve

postcricoid area where vocal cord fixation can occur if cricoarytenoid joint is involved.

SYMPTOMATOLOGY-













The clinical picture caused by a large tumor is often unmistakable, but in the early

stages the symptoms may be indefinite. Whilst the feeling of lump in the throat, which is worse

on swallowing saliva is rarely of serious significance (e.g globus pharyngicus) or persistent

soreness, should always be treated with extreme suspicion, especially in elderly patients who

smoke and drink. Persistent pharyngeal pain is nearly always a sinister symptom and if

associated with malignancy it reflects deep invasion in larynx and pharyngeal structures. It is

often associated with referred pain to ipsilateral ear.

WORK UP-

History and physical examination, Biopsy , HPV testing suggested, Chest imaging, CT with

contrast or MRI or PETCT and CT with contrast of primary and neck, Dental evaluation, including

panorex as indicated, Speech & swallowing evaluation as indicated, Examination under

anesthesia with endoscopy and Pre-anesthesia studies.

EXAMINATION *-* All patients presenting with a throat complaint or a mass in the neck

requires a full head and neck and general examination. Patients can be examined in OPD using

either indirect laryngoscopy.

Particular attention should be paid to obvious swelling or ulceration and also to the presence of

pooling of saliva in pyriform fossa (Chevalier Jackson’s sign) and oedema of arytenoids.

Presence or absence of laryngeal crepitus should be look for. Absence of crepitus means any

postcricoid or posterior pharyngeal wall involvement.

It is important to carry out any imaging studies prior to endoscopy and biopsy if possible since FNAC; endoscopic and open biopsy can all create artifactual features on both CT and MRI.

SPECIFIC USES OF IMAGING-



pre and paraglottic space







Barium swallows extremely useful investigation in tumour involving postcricoid and cervical

oesophagus.

TREATMENT - surgery,chemotherapy,radiotherapy,adjuvant chemotherapy and neo adjuvant chemotherapy as indicated.

PREVENTION AND COUNSELING- Abstinence of alcohol and cessation of smoking is first and

foremost for prevention.

**CARCINOMA LARYNX**

Larynx is not only important for respiratory function but also for deglutition and phonation. Carcinoma of larynx along with carcinoma of oral cavity is the most common malignancies in head and neck malignancy. It often present early when a high cure rate can be achieved. Treatment remains controversial but early cancer may treat with either surgery or radiotherapy, depending on size, site of tumor and patient and doctor preference. Advanced disease treated with radical surgery and post op radiotherapy.

PRESENTATION-

Given the functions of the larynx mentioned above, one can easily imagine the consequences of a carcinoma destroying and/or obstructing the laryngeal structures and their mechanisms (eg, vocal-cord movement). Symptoms vary with the structures involved by malignancy and its accompanying inflammatory reaction. Although the particular tumor, the site, and the patient's constitution play key roles in any given individual, laryngeal cancers as a whole can cause any of the following findings, alone or in combination:

1. Glottis-

a) Hoarseness

b) Sore throat

c) localized pain( cartilage invasion)

d) Dyspnea

e) Otalgia (involvement of deep structure)

2. Supraglottis-

a) Odynophagia

b) Sore throat

c) Weight loss

d) Aspiration

e) Tone breath

f) Otalgia

g) Neck mass (either tumour itself or lymph node)

h) Lymph node metastases

3. Subglottis-

a) Dyspnoea

b) Hemoptysis

EVALUATION**-**

HISTORY *-* As in all clinical evaluations, the history is the first step in gathering the facts.

Assess or inquire about the following:

Weight loss

Fatigue

Pain

Difficulty breathing or swallowing

Vocal changes noted by the patient and his or her family

Ear pain

Coughing up blood or solid material

PHYSICAL EXAMINATION-

General condition

Nutritional status

Full head and neck examination which includes inspection and palpation of the oral

cavity and oropharynx to rule out second primary tumors or other lesions, as well as

evaluation of dentition.

Flexible laryngoscope - to evaluate the function and anatomy of the entire larynx.

Evaluation of vocal cord motility and the location and extension of the tumor are

crucial to stage the patient accurately.

Palpation of the neck looking for enlarged lymph nodes

Evaluation of the cranial nerves should also be included in the physical examination.

IMAGING STUDIES-

X-ray ,CT ,MRI.

TISSUE BIOPSY- DL scopy and biopsy and panendoscopy

.

TREATMENT - chemotherapy

PREVENTIVE MEASURES

Don't smoke. Don't drink more than 1 or 2 alcoholic drinks, if any, a day.

Avoid exposure to known toxins.

Seek attention of doctor in case of change of voice and any other throat problem.

REFERRAL CRITERIA: If radiotherapy is indicated.

**CERVICAL LYMPHADENOPATHY**

Lymphadenopathy is an abnormal increase in size and/ or altered consistency of lymph

nodes. It is a clinical manifestation of regional or systemic disease and serves as an excellent

clue to the underlying disease. Cervical lymphadenopathy (C.L.) is a fairly common clinical

presentation.

SYMPTOMS AND SIGNS-

1. Neck Swelling

Lymph node character

i) Stone hard: typical of cancer usually metastatic

ii) Firm rubbery: can suggest lymphoma

iii) Soft: infection or inflammation

iv) Matting: tubercular

2. Pain-

(i) Painful lymph node present in acute inflammatory condition.

(ii) Painless lymph node mainly present in granulomatous or malignant conditions

3. Size - Rapid increase in size could be due to malignancy.

EVALUATION

1. Laboratory studies

a) CBC count, including a careful evaluation of the peripheral blood smear. An

erythrocyte sedimentation rate is nonspecific but may be helpful.

b) Evaluation of hepatic and renal function and a urine analysis are useful to

identify underlying systemic disorders that may be associated with lymphadenopathy.

c) Additional studies, such as lactate dehydrogenase (LDH), uric acid, calcium, and

phosphate, may be indicated if malignancy is suspected. Skin testing for

tuberculosis is usually indicated.

d) In evaluating specific regional adenopathy, lymph node aspirate for culture may

be important if lymphadenitis is clinically suspected.

e) Titers for specific microorganisms may be indicated, particularly if generalized

adenopathy is present. These may include Epstein-Barr virus, cytomegalovirus

(CMV), *Toxoplasma* species, and human immunodeficiency virus (HIV).

2. Imaging studies

a) Chest radiography is usually the primary screening imaging study. Additional imaging studies are usually based on abnormal chest radiograph findings. Chest radiography is often helpful in elucidating mediastinal adenopathy and underlying diseases affecting the lungs, including tuberculosis, coccidioidomycosis, lymphomas.

b) CT scan and MRI especially helpful in case of metastatic disease to know the extent of involvement.

c) Nuclear medicine scanning is helpful in the evaluation of lymphomas.

d) Ultrasonography may be helpful in evaluating the changes in the lymph nodes and in evaluating the extent of lymph node involvement in patients with lymphadenopathy.

3. Fine Needle aspiration Cytology

4. Lymph Node Biopsy / Excisional Biopsy

MANAGEMENT

1. Treatment with antibiotics (covering the bacterial pathogens frequently implicated in

lymphadenitis) followed by re-evaluation in 2-4 weeks is reasonable if clinical findings

suggest lymphadenitis. Benign reactive adenopathy may be safely observed for months.

Infectious lymph adenopathy usually requires treatment with appropriate antibiotics.

2. Granulomatous condition requires address of general condition, and treatment with

steroids and immunoglobins depending on conditions.

3. In cases of malignant conditions, patient can be managed on different modality of

treatment viz chemotherapy, radiotherapy or surgery depending on type and stage of

malignancy.

**PERITONSILLAR ABSCESS (QUINSY)**

Peritonsillar abscess is a common infection of Head & Neck region. Although not

generally considered as a deep neck space infection physicians must be aware of the typical

clinical presentation & diagnostic strategies in order to quickly diagnose & appropriately treat

these patients to prevent complications.

DEFINITION: PTA is a collection of pus between the fibrous capsule of the tonsil usually at

the upper pole & the superior constrictor muscles of pharynx.

PREVENTION AND COUNSELLING

1. Do not smoke.

2. Maintain good oral hygiene

3. Promptly treat oral infections.

4. If recurrent tonsillitis, tonsillectomy can be considered.

OPTIMAL DIAGNOSTIC CRITERIA & INVESTIGATIONS

CLINICAL DIAGNOSIS-

a) History

(i) Progressive, usually unilateral sore throat over 3-4 days.

(ii) Odynophagia

(iii) Dysphagia for solids then liquids

(iv) Ipsilateral otalgia

(v) Headache, body ache

(vi) Fever,chills& rigors

b) General Examination

(i) Muffled & thick speech (hot potato voice / plummy voice)

(ii) Foul breath

(iii) Vitals – Fever; tachycardia

c) Local Examination

(i) Limited mouth opening (Trismus)

(ii) Torticollis

(iii) Oral cavity- Dental caries

(iv) Oropharynx- Soft Palate-Congested ,Bulging

Anterior Tonsillar Pillar- Congested, Edematous

Tonsil-Edematous (May not appear enlarged as it gets buried in edematous pillars

Uvula-Edematous, pushed to opposite side.

INVESTIGATIONS

a)Complete Blood counts

b)Serum electrolytes

c) Needle aspiration of pus

Culture Sensitivity,Gram staning,AFB staining

d) Imaging

(i) Orthopantogram

(ii) X- Ray Neck

AP view – Distortion of soft tissue

Lateral view- Rule out other differential diagnosis

(iii) CT-Scan Neck with Contrast

TREATMENT & REFERRAL CRITERIA

Standard Operating Procedure

1. Needle Aspiration

2. Incision & Drainage

3. Abscess /Hot Tonsillectomy

4. Interval Tonsillectomy

5. In-Patient Care

a) Airway- Tracheostomy may be essential in case of compromised airway

b) Breathing

c) Circulation- IV Fluids

d) Antibiotics- IV until acceptable swallowing is feasible.

f) Analgesics

g) Hydrogen peroxide/ Saline mouth wash

h) Steroid

**OTITIS EXTERNA**

Otitis externa is a commonly encountered extremely painful condition of the external ear. It may be localised (furunculosis) or diffuse.

Clinical diagnosis:

 History: pain in ear, patient not allowing to touch the ear

 Clinical examination: Tragal sign +ve, circumduction sign +ve, oedema of the canal wall, localised abcess formation

Management: Broad spectrum antibiotics, NSAIDs and ear packing with antibiotic-steroid ointment and Icthymol.

**ACUTE SUPPURATIVE OTITIS MEDIA**

It is a commonly seen condition especially in the pediatric population.

Clinical diagnosis:

 History: pain, fever, earache, h/o recent URTI, incessant cry, irritable behaviour

 Clinical examination: tympanic membrane may appear congested, bulging with cartwheel appearance

Management: broad spectrum antibiotics, nasal and systemic decongestants, NSAIDs are prescribed. Myringotomy if TM is bulging and antibiotic ear drops when perforation of TM occurs.

**CHRONIC SUPPURATIVE OTITIS MEDIA**

Chronic suppurative otitis media is of two types: mucosal (previous terminology-safe) and squamosal (unsafe). It is important to differentiate between the two conditions, the management and prognosis of the two being entirely different.

**CSOM mucosal type**: It is a chronic suppurative condition of the middle ear wherein there is no risk of complications, hence termed as the “safe type” previously.

Clinical diagnosis:

 History: long-standing ear discharge (unilateral or bilateral) which is profuse in amount, mucoid/mucopurulent in nature, non foul-smelling, not blood stained and usually follows ingress of water. Decreased hearing is another complaint.

 Clinical examination: a central perforation with regular margins and of varying size in the tympanic membrane is the typical finding.

Management:

 Investigations: examination under microscope, aural swab culture and sensitivity, tuning fork tests, audiological evaluation, X-ray PNS (w/v).

 Treatment: aural toileting, antibiotic-steroid ear drops, nasal and systemic decongestants

 Precautions: patient instructed to keep ear dry.

 Surgical treatment: management of contributory causes and myringoplasty, once ear is dry as per indications.

**CSOM Sqaumosal type:** it involves the postero-superior quadrant and is associated with granulation tissue and cholesteatoma. Cholesteatoma has bone-eroding properties and hence the risk of serious complications is there.

Clinical diagnosis:

 History: long-standing ear discharge which is scanty in amount, foul-smelling, occasionally blood-stained. Features of associated complications like pain,

vertigo, facial deviation, nausea, vomiting, headache, fever, altered sensorium, neck stiffness, diplopia, ataxia.

 Clinical examination: perforation in the attic or marginal perforation, granulation tissue, cholesteatoma, retraction pocket

Management:

 Investigations: Examination under microscope, aural swab culture and sensitivity, tuning fork tests, audiological evaluation, X-ray mastoid or CT temporal bone if impending intracranial complication.

 Treatment:

 Medical management: aural toileting, antibiotic-steroid ear drops Precautions: patient instructed to keep ear dry.

 Surgical treatment: management of contributory causes

Mastoidectomy and tymplanoplasty

Management of complications and referral if required (e.g. neurosurgery required)

**OTITS MEDIA WITH EFFUSION**

It is characterised by accumulation of non-purulent effusion in the middle ear cleft. The fluid is nearly sterile. The condition is common in school-going children.

Clinical diagnosis:

 History: decreased hearing, delayed and defective speech, mild earache

 Clinical examination: dull TM, loss of light reflex, fluid level and air-bubbles, restricted mobility of TM.

Management:

 Investigations: audiological evaluation, tuning fork tests, impedance audiometry, x-ray mastoid.

 Treatment:

 Medical : nasal and systemic decongestants, anti-allergic measures, broad-spectrum antibiotics, middle ear aeration by Valsalva manuevre.

 Surgical: myringotomy and aspiration of fluid, surgical treatment of contributory causes (adenoidectomy, tonsillectomy).

**PRESBYCUSIS**

It is sensorineural hearing loss associated with physiological ageing process manifesting at or above 65yrs of age but may do early if there is hereditary predisposition.

Clinical diagnosis:

 History: decreased hearing especially in noisy surroundings, poor understanding of speech

 Clinical examination: intact TM, tuning fork tests reveal sensorineural type hearing loss

Management:

 Investigations: audiological assessment, special tests of hearing if required

 Treatment: no medical or surgical treatment

 Hearing aids are prescribed according to degree of hearing loss

**SUDDEN SNHL**

It is defined as 30dB or more SNHL over at least three contiguous frequencies occurring in a period of three days or less.

Management:

 Investigations: audiometry, vestibular tests, imaging studies for temporal bone, complete haemogram with ESR, tests for syphilis, diabetes, hypothyroidism, lipid profile, blood disorders.

 Treatment: bed rest, steroid therapy (prednisolone @1mg/kg body weight for one week, then tapered off over three weeks), intermittent oxygen inhalation, vasodilator drugs, low-salt diet.

**BELL’S PALSY**

It is idiopathic peripheral facial palsy or paresis of acute onset affecting both sexes equally.

Clinical diagnosis:

 History and clinical examination: sudden onset of facial weakness, inability to close eyes. On attempting to close eyes, eyeball turns up. Dribbling of saliva, epiphora, noise intolerance, loss of taste.

 It is a diagnosis of exclusion.

Management:

Investigations: audiometry, vestibular tests, imaging studies for temporal bone, complete blood workup.

Treatment:

Medical management: steroid therapy(prednisolone @1mg/kg body weight in tapering doses), PPIs, vasodilators.

Reassurance and counselling

Physiotherapy and eye care.

**MENIERE’S DISEASE**

It is also known as endolymphatic hydrops characterised by vertigo, tinnitus, SNHL, aural fullness.

Clinical diagnosis:

 History: common in the age group of 35-60 yrs affecting males more than females; vertigo, tinnitus, SNHL, aural fullness.

 Clinical examination: nystagmus, audiological evaluation including special audiometric tests (SISI, Tone decay test, BERA), glycerol test.

Treatment:

 General measures: reassurance, cessation of smoking, low salt diet, avoidance of stress, change in lifestyle

 Medical management: vasodilators, vestibular sedatives, diuretics

**FOREIGN BODY**

Aural foreign bodies may be living (insects) or non-living (paper piece, seeds, pencil tip, ball-bearings, matchstick).

Clinical diagnosis:

 History: history of accidental foreign body insertion- recent or long term

 Methods of removal: forceps, syringing (non-organic foreign bodies), suctioning, microscopic removal, post-aural approach (under GA).