

Tumours of Larynx

Benign

Malignant

Benign Tumours

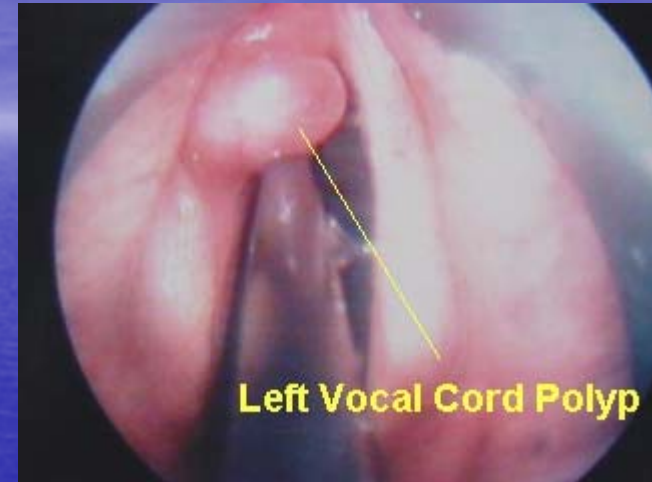
Non-neoplastic

Neoplastic

Non - Neoplastic

Solid

- Vocal Nodule
- Vocal Polyp
- Rinke's Oedema
- Contact Ulcer
- Intubation Granuloma
- Leukoplakia
- Amyloid Tumour



Cystic

- Ductal Cyst
- Saccular Cyst
- Laryngocele



Neoplastic

Squamous papilloma

- Juvenile
- Adult

Chondroma

Haemangioma

Glandular Tumors

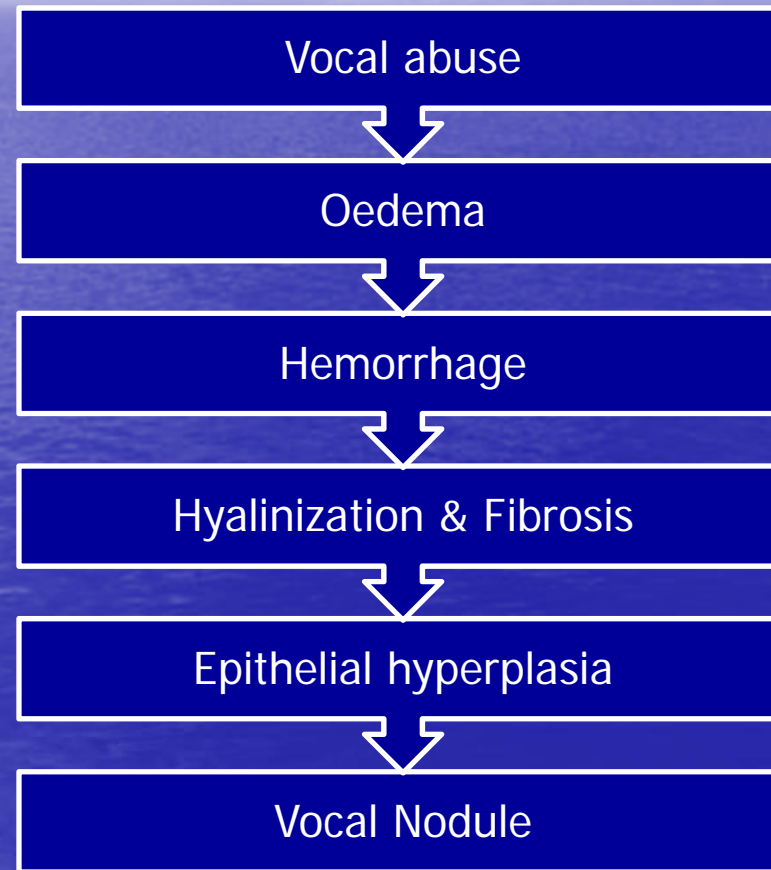
Malignant Lesions of Larynx

- Squamous cell carcinoma
- Verrucous carcinoma
- Spindle cell carcinoma
- Malignant Glandular tumors
 - Adenocarcinoma
 - Adenoid cystic carcinoma
- Lymphoid tumors
 - Non Hodgkin's tumor
 - Hodgkin's tumor
- Muscular Tumors
 - Rhabdomyosarcoma
- Malignant Neurogenic tumors
 - Paraganglioma
- Vascular tumors
 - Haemangiopericytoma
- Cartilaginous tumors
 - Chondrosarcoma
- Bony tumors
 - Osteosarcoma
- Metastatic tumors
 - Renal
 - Breast
 - Ovary
 - Lungs
- Thyroid carcinoma

Vocal Nodule

- B/L Symmetrically on free edge of cord
- Jn of Ant 1/3rd and post 2/3rd
- Pin head to pea size
- Vocal trauma due to unnatural low tones / high intensities.
- School going children, hawkers, singers, teachers

Pathogenesis



Symptoms & Signs

- Hoarseness
- Vocal Fatigue
- Pain in neck on prolonged phonation

Treatment:

- Early cases – Conservative
- Microlaryngeal surgery
- Speech Therapy

Vocal Polyp

- Vocal Abuse / misuse
- Allergy & smoking
- Age group 30 – 50 yrs
- Hoarseness, Dyspnoea, stridor, choking
- Soft smooth often pedunculated
- May flop up & down with respiration
- Treatment by MLS followed by speech therapy



Reinke's Oedema

- Collection of fluid in subepithelial space
- Vocal abuse is the cause.
- Both cords are affected.
- Vocal cord stripping, one cord at a time.
- Speech therapy

Leukoplakia

- Whitish patch or warty growth
- Premalignant condition
- Hoarseness
- Stripping of cords and biopsy.
- Repeat till biopsy is negative.

Laryngocele

Air filled cystic swelling due to dilatation of saccule.

Types: Internal, External, Mixed

- Cause: Raised transglottic pressure
- Hoarseness, cough, airway obstruction
- Reducible swelling in neck, ↑ cough & valsalva
- Diagnosis : Laryngoscopy, X-ray STN_ Ap & Lat. With valsalva, CT scan
- Treatment: External- Excision, Internal – marsupialisation
- In adults exclude carcinoma

Squamous Papilloma

Juvenile & Adult

- Juvenile:
 - Viral in origin, Multiple
 - Infants & young children presenting with hoarseness & stridor
 - TC,FC & epiglottis common sites
 - Appear as glistening white irregular growths, pedunculated or sessile, friable and bleed easily
 - Endoscopic removal, cupped forceps, Cautry, Co2 Laser
 - Known to recur after multiple surgeries
 - Tend to disappear after puberty
 - Interferon
- Adult-onset papilloma
 - Single, smaller, less aggressive, arises from Ant. ½ of cord
 - Common in males 30 -50 yrs
 - Treatment is surgical removal. Generally no recurrences

Carcinoma Larynx

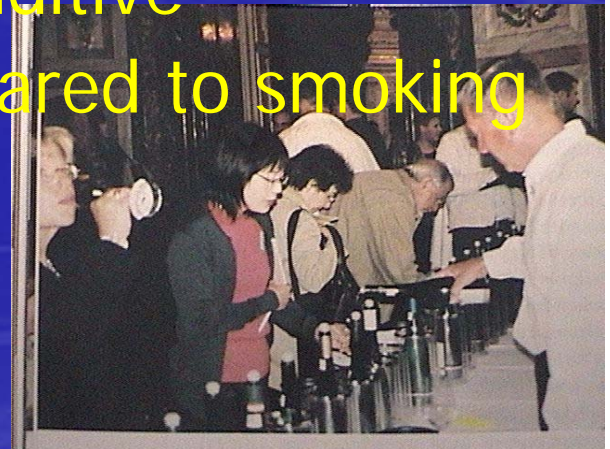
- Occurs in every country in the world
- 2.3% of all malignant male tumors & 0.4% of female
- 1.3% of all cancer diagnosis & 0.83 cancer deaths (National Institute of Cancer)
- Disease of elderly 6th-7th decade, reports of cases <20 yrs are also available

RISK FACTORS

- Tobacco
- Alcohol
- Radiation exposure
- Laryngeal keratosis
- Laryngeal papilloma
- Industrial Exposure

Tobacco

- Rare in non smokers
- Cigarette smoking is principle risk factor
- Strong correlation between tobacco and laryngeal cancer
- Causative factor for all cancers in all parts
- Combination of alcohol & smoking increases the risk of supra glottic tumors.
- Effect synergistic rather than additive
- Risk is 50 times higher as compared to smoking alone



Radiations



- **Low dose radiation has been identified**
- **Affects usually soft tissues or superficial glandular structures**
- **laryngeal tumors are also reported**

Laryngeal Papilloma

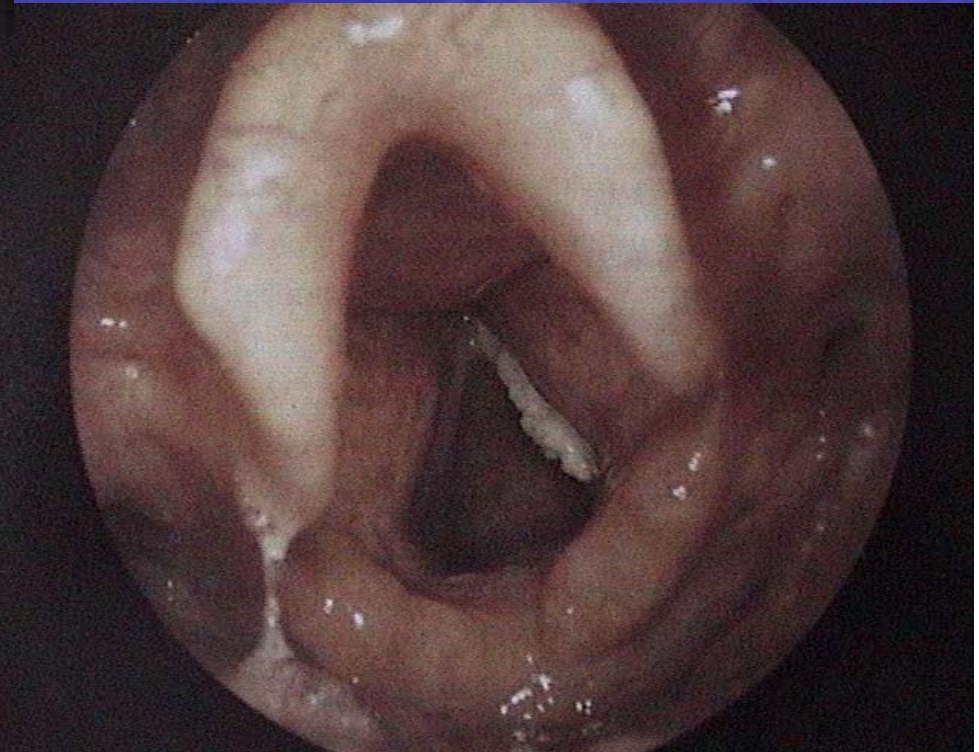
- Very rare in de novo
- RT given as Rx of papilloma



Laryngeal Keratoses

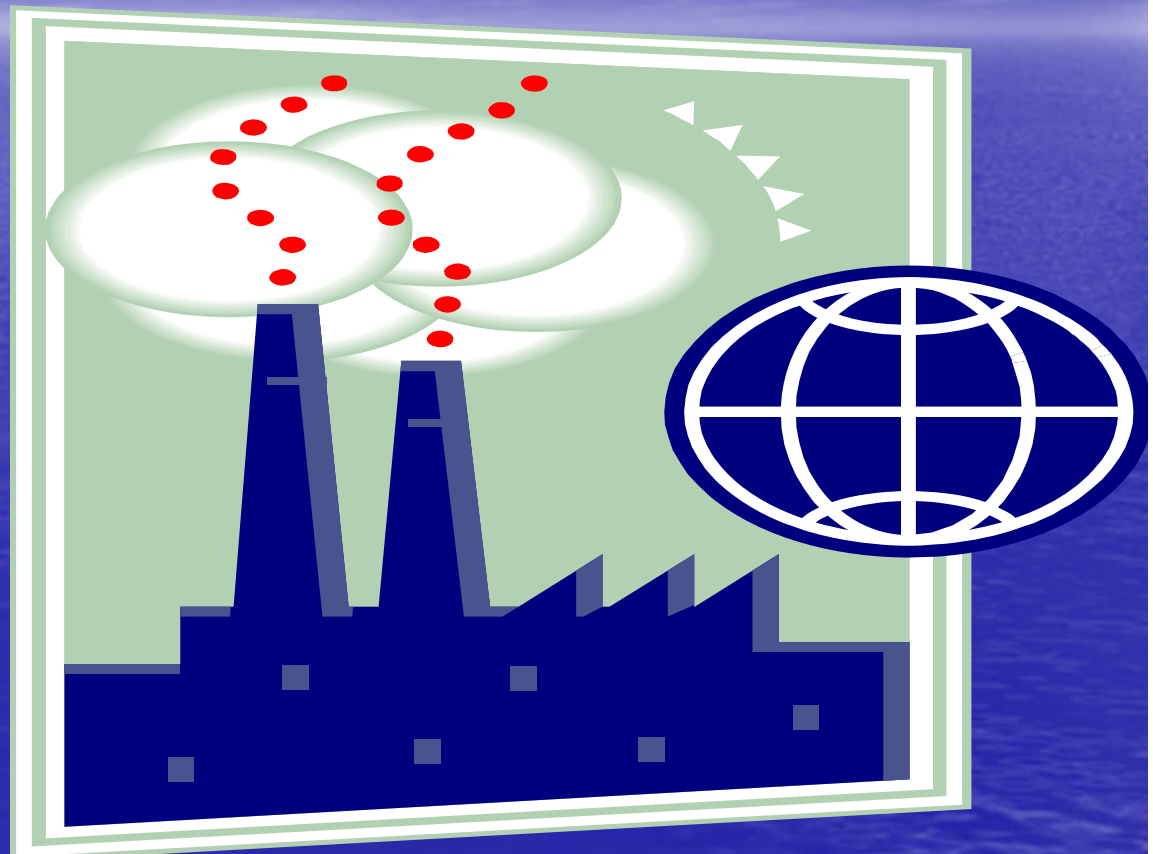


Keratosis is followed by malignancy in 3.3%



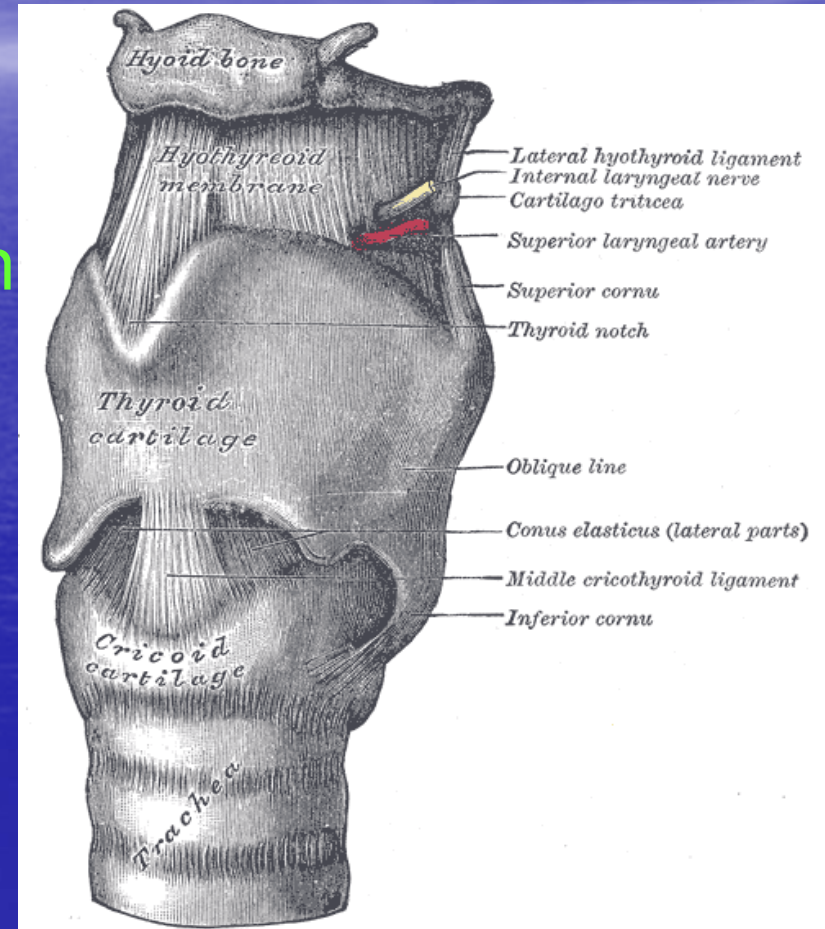
INDUSTRIAL EXPOSURE

- SMOKE
- TOXIC FUMES
- CHEMICAL



CLINICOPATHOLOGICAL FACTORS

- Lies in front of the Hypopharynx
- 3rd to 6th cervical vertebra
- Higher, smaller and pliable in children
- After puberty male larynx grows rapidly
- Lined by respiratory epithelium
- Has 3 paired & 3 unpaired cartilages
- Extrinsic & intrinsic muscles help in movements of the joints



CLINICOPATHOLOGICAL FACTORS

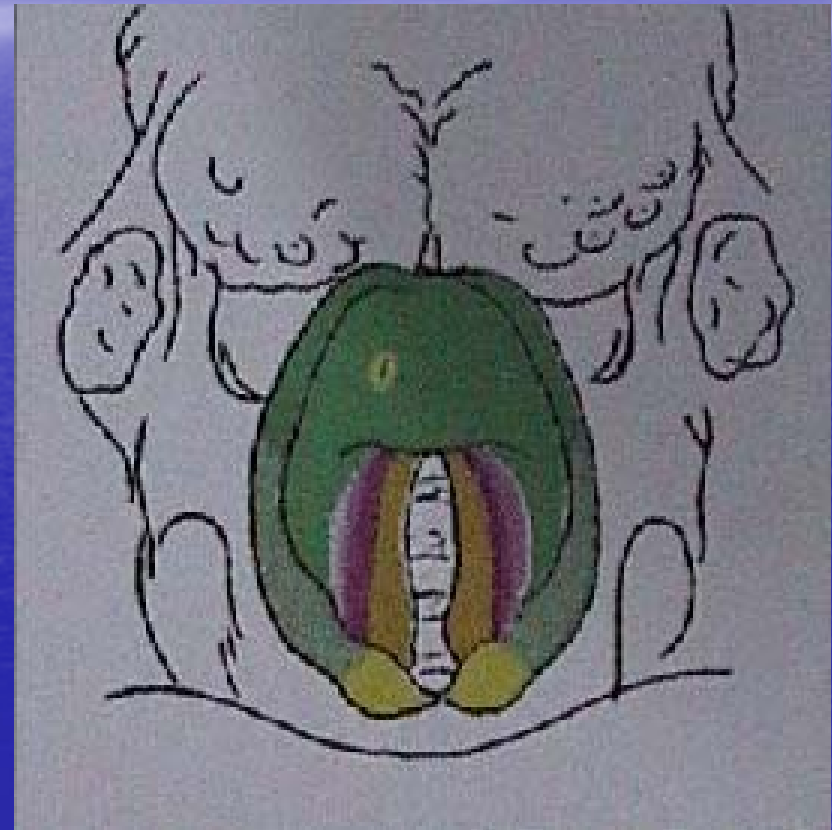
LARYNX

- Sup.- Tip & lateral border of epiglottis
- Inf. – Inf. Margin of cricoid cartilage
- Ant. – Lingual surface of epiglottis, TH memb, Thyroid cart., CT memb., cricoid cartilage
- Post – AE folds, Arytenoid cart., Inter arytenoid mucosa & mucosa over cricoid cartilage
- Three regions: Supra glottis, Glottis & sub glottis



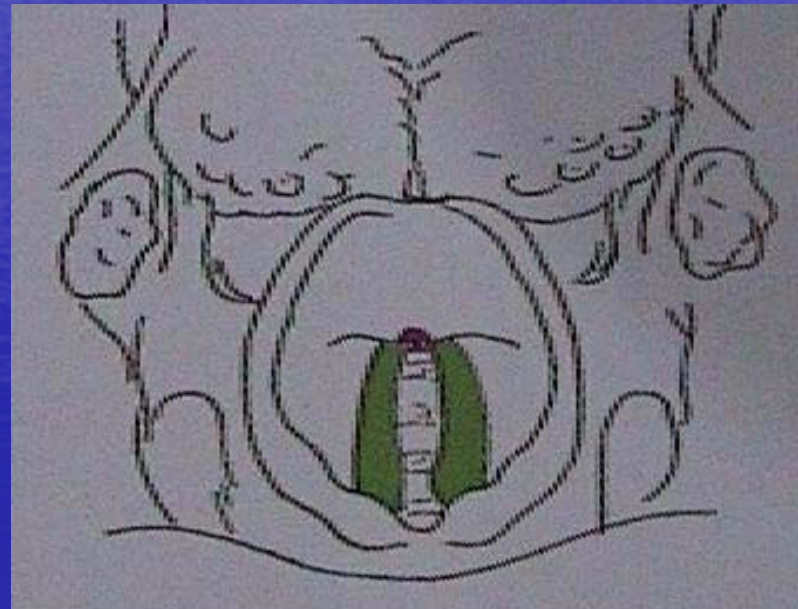
Supraglottis

- Extends from free border of epiglottis superiorly to laryngeal ventricle inferiorly
- Includes:
 - Laryngeal surface of epiglottis
 - AE folds
 - Arytenoids
 - False cords
 - Ventricle



GLOTTIS

- Extends from lat. Angle of ventricle to 1cm below the cord
- Includes:
 - Ant. Commissure
 - Post. Commissure
 - Both True cords



SUBGLOTTIS

- Extends from 1cm below the cord to lower margin of cricoid

TNM Staging

- T – Tumor
 - T0 – No evidence of tumor
 - Tis – Carcinoma in situ
 - T1 – Tumor confined to the region with normal mobility
 - T2 – Tumor extension to adjacent site/sites without fixation
 - T3 – Tumor confined to larynx with fixation of cords or evidence of deeper infiltration
 - T4 – Tumor with direct extension beyond larynx

TNM Staging

contd.

- N – Node
 - N0 – No evidence of regional lymph node involvement
 - N1 – Involvement of movable homolateral regional lymph nodes
 - N2 – Involvement of movable contralateral or bilateral regional lymph nodes
 - N3 – Fixed regional nodes
 - NX – The minimum requirements to assess the regional lymph nodes
- M – Metastases
 - M0 – No evidence of distant metastases
 - M1 – Evidence of distant metastases

SYMPTOMS

- Progressive & unremitting dysphonia
- Dyspnoea & stridor
- Pain
- Dysphagia
- Swelling
- Cough & irritation
- Anorexia, cachexia or fetor

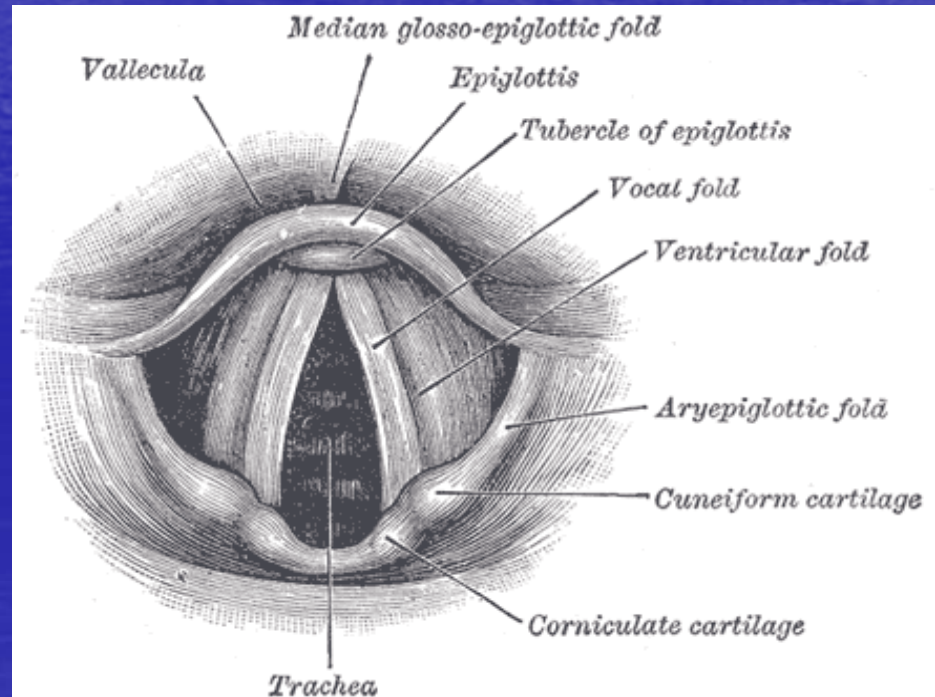
General Examination

- To exclude metastases
 - Liver
 - Lungs
 - Physical status
 - Fitness for surgery

Indirect laryngoscopy

Focal abnormality
& cord mobility

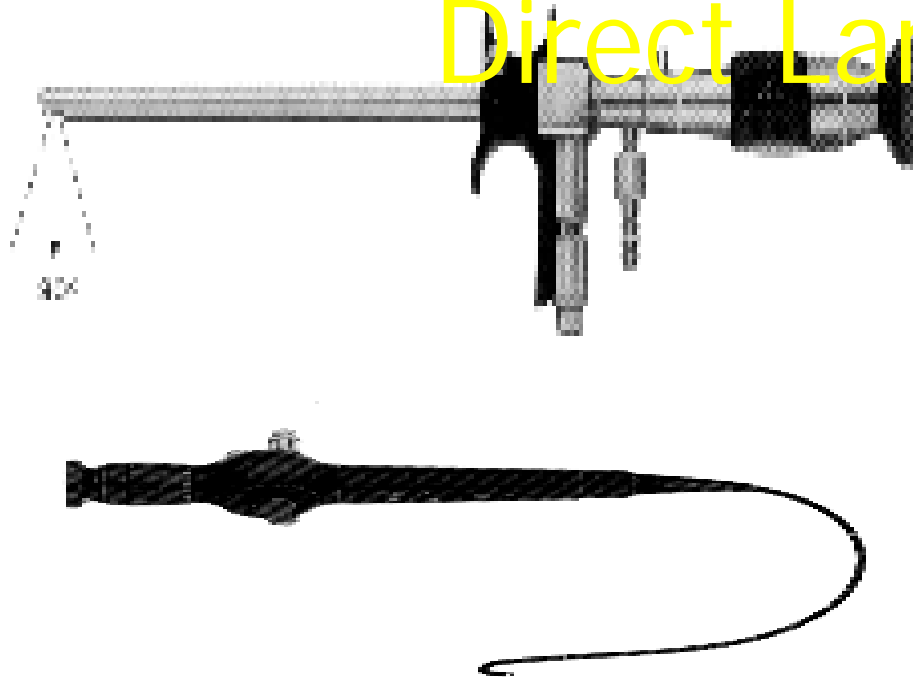
- Warty enlargement
- Nodule or thickening
- Hyperkeratosis
- Ulceration



Radiological examination

- X-ray chest
- X-ray Soft tissue Neck
- Laryngography
- CT Scan
- USG abdomen

Direct Laryngoscopy



Documentation

Biopsy

MLS

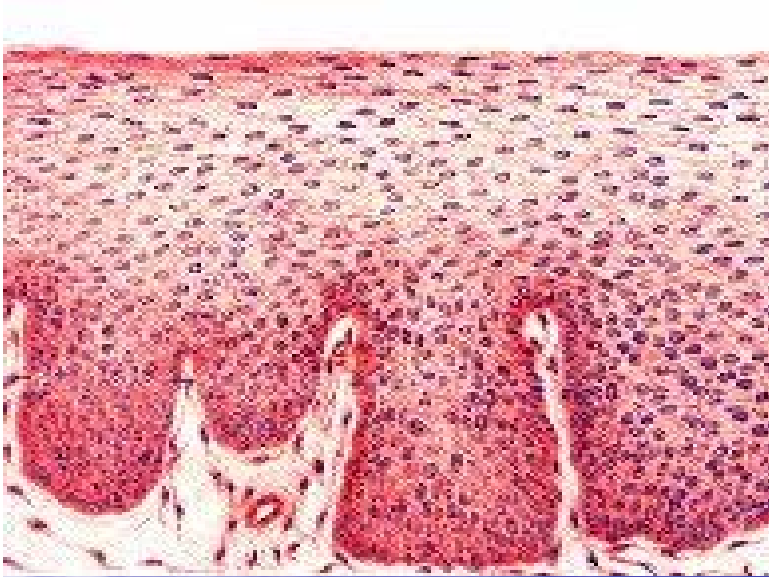
Direct Laryngoscopy



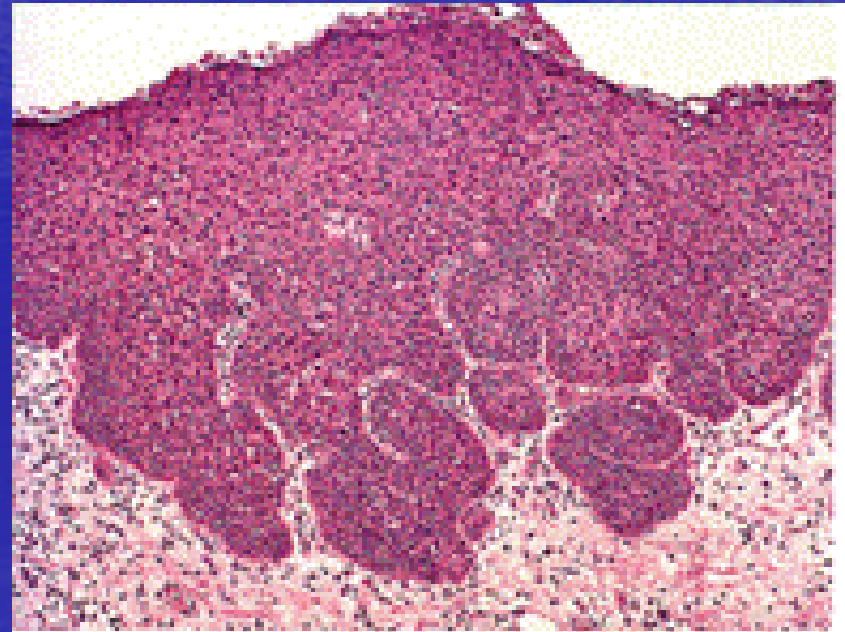
MICRO LARYNGOSCOPY

The background of the slide is a photograph of a vast, deep blue ocean stretching to the horizon under a clear blue sky with some light, wispy clouds. The text 'MICRO LARYNGOSCOPY' is centered in the upper portion of the image in a bright orange-red color.

Histological examination



- Definite diagnosis
- Identification of tumor
- Differentiation



Examination of NECK

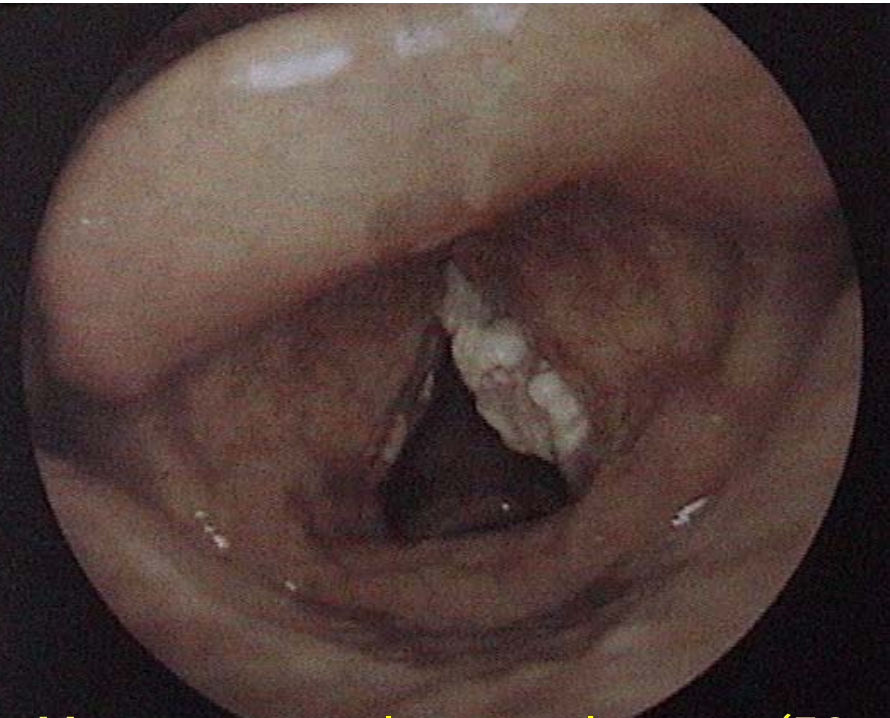
The background of the slide is a blue-tinted photograph of a vast, calm ocean extending to a clear horizon. The sky is filled with soft, wispy white clouds. The overall color palette is dominated by various shades of blue, from deep navy to light sky blue.

Supraglottic Tumors

- Less frequent than glottic tumor
- Lesions seen on epiglottis, false cord followed by aryepiglottic folds
- Tend to remain confined above the ventricle
- Spread facilitated by mucus glands & pits within the cartilage
- Infiltrate the pre epiglottis space, vallecula, base of tongue and glottis
- Involves upper deep cervical nodes



Glottic Tumors



- Most common laryngeal tumor (50-75%)
- Early symptoms
- Slow growing & well differentiated
- Well localized & no metastasis
- Highly curable
- Can extend to ant. Commissure & post. Commissure, supraglottis & subglottis

Subglottic tumors

- Primary or Secondary tumors
- Primary tumors very rare (1-5%)
- Clinically silent until voice change due mass or immobility
- High incidence of cord fixation due to thyro arytenoid invasion
- Nodal invasion very high



Treatment

- Depends upon the site & stage of the disease
- Broadly T1 & T2 – Radiotherapy or surgery
T3 & T4 – Combined therapy i.e.
Surgery & radiotherapy
- Neck dissection for neck nodes

Surgery

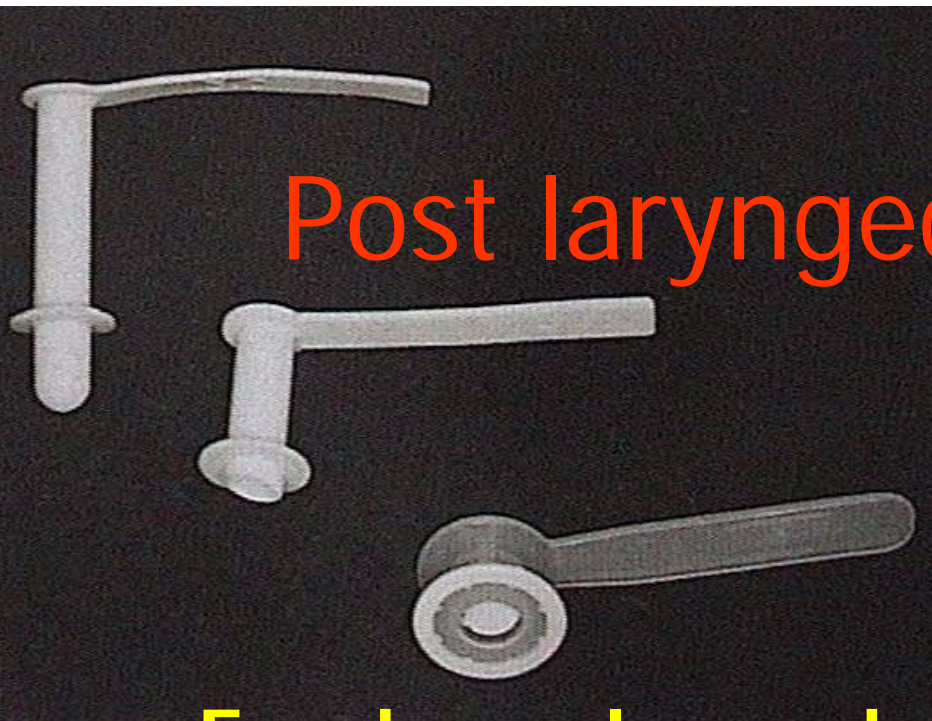
- Conservative Surgery
 - Stripping of cords
 - Cordectomy
 - Horizontal partial laryngectomy
 - Supraglottic laryngectomy
 - Hemilaryngectomy
 - Near total laryngectomy
- Radical Surgery
 - Total Laryngectomy

Radiotherapy

- Good results in early lesions
- Preserves voice
- T1 & T2 has >90% cure rate
- T3 & T4 not good results
- Side effects : Dryness , skin excoriation, dysphagia, hair loss etc.



Post laryngectomy speech



- **Esophageal speech**
- **Electronic larynx**
- **Tracheo-oesophageal speech**

- ❖ Blom singer's prosthesis
- ❖ Provox prosthesis

