Hypopharyngeal Tumours

- Hypopharynx is a highly important anatomical site since physiologically it is a component of the upper aerodigestive tract and in its upper part, it represents a common conduit for both respiration and deglutition.
- Hence any treatment in this area will by definition produce disturbances in swallowing with inevitable aspiration.

Anatomical considerations:-

- It consists of :-

  1- Two piriform sinuses-one on each side.

  2- Posterior pharyngeal wall.

  3- Post-cricoid region where aerodigestive tract continues with cervical oesophagus.

- Pharyngo-oesophageal junction (post-cricoid area) extends from level of arytenoid cartilages and the connecting folds to the inferior border of cricoid cartilage, thus forming the anterior wall of the hypopharynx.
- Piriform sinuses extend from pharyngo-epiglottic fold to the upper end of the oesophagus.
- It is bounded laterally by thyroid cartilage and medially by hypopharyngeal surface of aryepiglottic fold and cricoid cartilages.

Anatomy:-

- Hypopharynx consist of 3 sites:-

  1- Post cricoid area: - extends from the level of the arytenoids cartilages and connecting folds to the inferior border of the cricoid cartilage, thus forming the anterior wall of hypopharynx.

  2- Piriform sinus: - extends from the pharyngoepiglottic folds to the upper end of the oesophagus. It's bounded laterally by the thyroid cartilage and medially by the hypopharyngeal surface of the aryepiglottic fold and the arytnoid and cricoid cartilages.

3- Postertior pharyngeal wall: - extends from superior level of the hyoid bone (or floor of the valeculle) to the level of the inferior border of the cricoid cartilage and from the apex of one piriform sinus to the other.

Classification:-

1- benign tumours: rare <1%, (leiomyoma, fibrolipoma & papilloma).

2- malignant tumours:-

A- primary:-

- Squmous cell carinoma : 97%
- Non- squmous cell carinoma : 3%.

B- Secondary from larynx, oropharynx, etc……

Squmous cell carinoma:-

Epidemiology:-

- —Incidence 1/100 000
- —More common in Canada, Iran and India.

Aetiology:-

- ž Cigarette smocking.
- ž Alcohol consumption.
- ž Low intake of fruit & vegetable.
- ž Occupational exposure (welding fumes & polycyclic aromatic hydrocarbons).
- ž Radiation exposure.
- ž Hypopharyngeal cancer is well-known association with cancer of the lung.
- ž Human papilloma virus type 16 & 18.

Site:-

- ž Piriform sinus: 60%
- ž Post cricoid area: 30%
- ž Postertior pharyngeal wall: 10%

Spread:-

- ž Local: - larynx, base of tongue, lateral wall of oropharynx, trachea, oesophagus & prevertebral fascia.
- ž Neck:-
  - — To lymph node (upper, mid and lower cervical lymph nodes).
  - — High in piriform sinus & postertior pharyngeal wall: 80%.
  - — Low incidence in post cricoid area: 30%.
- ž Distant: - lung, liver, bone & skin.

Clinical Features:-

- Sex: - Approximate male-to-female ratio of 3:1 for piriform sinus and posterior pharyngeal wallcancer.

Women have a higher incidence of postcricoid cancers related to nutritional deficiencies (Plummer-Vinson syndrome) than men.

- Age:-The mean age at presentation is 65 years for piriform sinus and posterior pharyngeal area.

Postcricoid cancer occur in the third decade of age.

Symptoms:-

1- Unilateral sore throat (very rarely globus sensation).

2- Pain on swallowing (odynophagia).

3- Dysphagia.

4- Hoarseness due to unilateral cord palsy.

5- Unilateral otalgia.

6- Weight loss.

Paterson Brown Kelly Syndrome

- Anaemia (both microcytic or macrocytic).
- Glossitis.
- Oesophageal web.
- Splenomegly.
- Koilonychia .
- Achlorhydria.
- Some patients also have history of irradiation of neck either external or internal as radio iodine for thyrotoxicosis.

Examination:-

- Inspection:-

— Patient is attempts to swallow frequently.
— Neck mass.
— Patient is unwell.
— Weight loss.

- Foetor.
- Indirect laryngoscopy:-

- Pooling of saliva.
- Mass.
- Immobility of hemilarynx.

- Examination of the neck:-

- Lymph nodes.

- Trotters sign (loss of laryngeal crepitus).
  - ž ENT examination.
  - ž Systemic examination.

Investigations:-

1. Laboratory.
2. Radiological (plain X-Ray, CT, MRI, PET scan).
3. Endoscopy + biopsy.
4. FNAC.

Tumour staging:-

- ž Tx: Tumour not defined.
- ž T0: no primary tumour or carcinoma in situ.
- ž T1: One subsite & less than 2 cm diameter in greatest dimention.
- ž T2: More than one subsite or tumour 2 to 4 cm diameter in greatest dimention. Without fixation of hemilarynx
- ž T3: tumour over 4 cm diameter or with fixation of hemilarynx.
- ž T4: tumour invades surrounding structures.

Treatment:-

- ž Aims: the optimal treatment modality should provide the:-
  - — Best chance of cure.
  - — Lowest mortality & morbidity.
  - — Shortest hospital stay.
  - — High chance of good upper aerodigestive tract function (swallowing and speech).

Modalities of treatment:-

A. Curative B. Palliative

- ž A. Curative:-
- ž For primary tumours:-

1- Surgery.

2- radiotherapy: for early tumours.

3- Chemotherapy: is adjuvant to surgery or radiotherapy or both.

4- Combined modalities.

Surgery:-

i- laryngectomy & partial pharyngectomy (± flap) for:-

- piriformis fossa with opposite side clear & not extending to midline Posteriorly.
- Posterior wall not invading larynx.

ii- total pharyngolaryngectomy (usually jejuanal loop repair) for:-

- small postcricoid.
- Large posterior wall.
- Small recurrence in pharyngeal remnant.

iii- total pharyngolaryngooesophagectomy (usually with gastric transposition or stomach pull up) for:-

- Large postcricoid area.
- Cervical oesophagus.
- 2nd tumour in oesophagus.
- Tumour and perforation.
- Thyroid cancer invading pharynx.
- Heavy irradiation damage.
- Previous recurrence.

- Failed previous methods.
- For lymph nodes in the neck:-

a. Radiotherapy.

b. Neck dissection (surgery).

B. Palliative:-

Indications:-

For those patients who have:-

a. advanced end-stage disease.
b. severe intercurrent illness.
c. poor general condition.
d. distant metastasis.
e. those who refuse surgery.

modalities of palliative treatment:-

a. Radiotherapy: for early tumors it is curative.
b. Chemotherapy.
c. Tracheostomy.
d. Gastrostomy.

Complications:-

- failure of graft or flap.
- postoperative fistulae or stenosis.
- mortality rate 1-10%.
- complications of radiotherapy or chemotherapy.

Prognosis:-

- the overall 5 year survival of treated patients is 50%.

Follow-up & after care:-

- on 10th postoperative day if there is no evidence of graft failure or leak, the patient can be commenced on fluids and then soft diet.
- most patients will require thyroid, calcium and calciferol replacement for life.
- speech rehaplitation.
- patients should be regularly reviewed in the clinic for their nutritional status & swallowing ability and any evidence of recurrence.
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