

# Hypopharyngeal Tumours

## 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. Its 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
    - Squamous cell carinoma : 97% (70% moderate or well differentiated).
    - Non- squamous cell carinoma : 3%.
  - B) Secondary from larynx, oropharynx, etc.....

## Squamous cell carinoma

### Epidemiology

- Incidence 1/100000
- More common in Canada, Iran and India.

### Aetiology

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

### Site

1. Piriform sinus: 60%
2. Post cricoid area: 30%
3. Postertior pharyngeal wall: 10%

## **Spread**

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

## **Clinical Features**

### **Sex**

Approximate male-to-female ratio of 3:1 for piriform sinus and posterior pharyngeal cancer. 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 of voice- unilateral cord palsy.
5. unilateral otalgia.
6. weight loss.

## **Examination**

1. Inspection
  - Patient is attempts to swallow frequently.
  - Neck mass.
  - Patient is unwell.
  - Weight loss.
  - Foetor.
2. Indirect laryngoscopy
  - Pooling of saliva.
  - Mass.
  - Immobility of hemilarynx.
3. Examination of the neck
  - Lymph nodes.
  - Trotter's sign (loss of laryngeal crepitus).
4. ENT examination
5. Systemic examination

## Tumour staging

Site	Stage	TNM Classification
Tumour	Tx	not defined
	T0	no primary tumour or carcinoma in situ
	T1	One subsite & less than 2 cm diameter in greatest dimension.
	T2	More than one subsite & tumour 2 to 4 cm diameter in greatest dimension. Without fixation of hemilarynx
	T3	tumour over 4 cm diameter With fixation of hemilarynx
	T4	tumour invades surrounding structures
Nodes	Nx	lymph nodes cannot be assessed
	N0	no regional nodes involved
	N1	single ipsilateral lymph node < 3 cm in diameter
	N2a	single ipsilateral lymph node between 3 and 6 cm in diameter
	N2b	multiple ipsilateral lymph nodes, none larger than 6 cm diameter
	N2c	bilateral or contralateral lymph nodes, none larger than 6 cm diameter
	N3	lymph node larger than 6 cm in diameter
Metastasis	Mx	not assessed
	M0	no distant metastases
	M1	distant metastasis present

## Investigations

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

## Treatment

- Aims: the optimal treatment modality should provide the
  1. Best chance of cure.
  2. Lowest mortality & morbidity.
  3. Shortest hospital stay.
  4. High chance of good upper aerodigestive tract function (swallowing and speech).
- Modalities of treatment
  - A. Curative
    1. For primary tumours.
      - a. Surgery
        1. laryngectomy & partial pharyngectomy ( $\pm$  flap) for
          - piriformis fossa with opposite side clear & not extending to midline Posteriorly.
          - Posterior wall not invading larynx.
        2. total pharyngolaryngectomy (usually jejuanal loop repair) for
          - small postcricoid.
          - Large posterior wall.
          - Small recurrence in pharyngeal remnant.

3. total pharyngolaryngoesophagectomy (usually gastric transposition) for
  - Large postcricoid area.
  - Cervical oesophagus.
  - 2<sup>nd</sup> tumour in oesophagus.
  - Tumour and perforation.
  - Thyroid cancer invading pharynx.
  - Heavy irradiation damage.
  - Previous recurrence.
  - Failed previous methods.
- b. radiotherapy: for early tumours.
- c. Chemotherapy: is adjuvant to surgery or radiotherapy or both.
- d. Combined modalities.
  2. For lymph nodes in the neck.
    - a. Radiotherapy.
    - b. Neck dissection.
- B. Palliative
  1. 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.
  2. modalities of treatment
    - a. radiotherapy: for early tumours.
    - b. Chemotherapy.
    - c. Tracheostomy.
    - d. gastrostomy.
- Complications
  1. failure of graft or flap.
  2. postoperative fistulae or stenosis.
  3. mortality rate 1-10%.
  4. complications of radiotherapy or chemotherapy.
- Follow-up & after care
  1. on 10<sup>th</sup> postoperative day if there is no evidence of graft failure or leak, the patient can be commenced on fluids and then soft diet.
  2. most patients will require thyroid, calcium and calciferol replacement for life.
  3. speech rehaplitation.
  4. patients should be regularly reviewed in the clinic for their nutritional status & swallowing ability and any evidence of recurrence.

**Prognosis:** the overall 5 year survival, tumour-specific survival is less than 30%, although the survival of treated patients rises to 50%.