

# Tumors of Esophagus

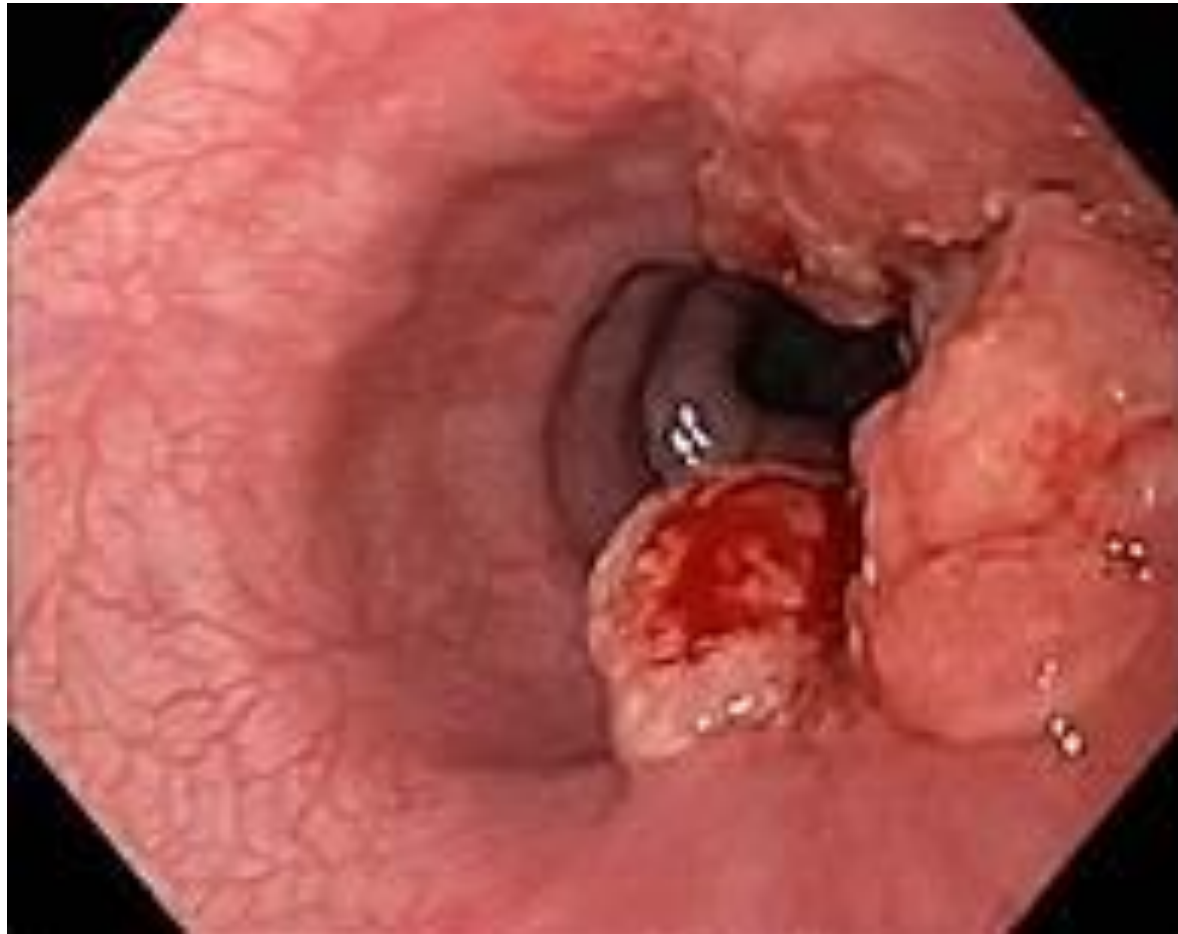
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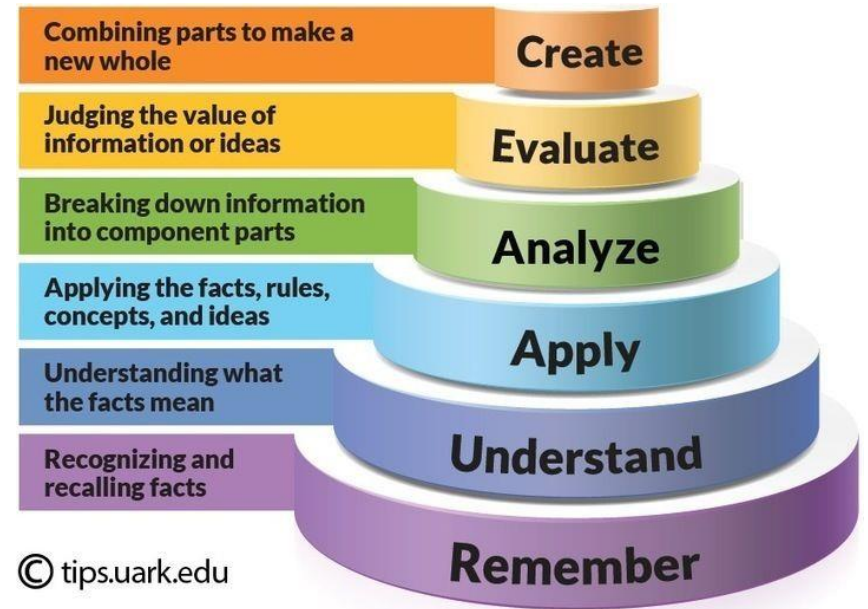
**Sargodha**

# Tumors of Esophagus



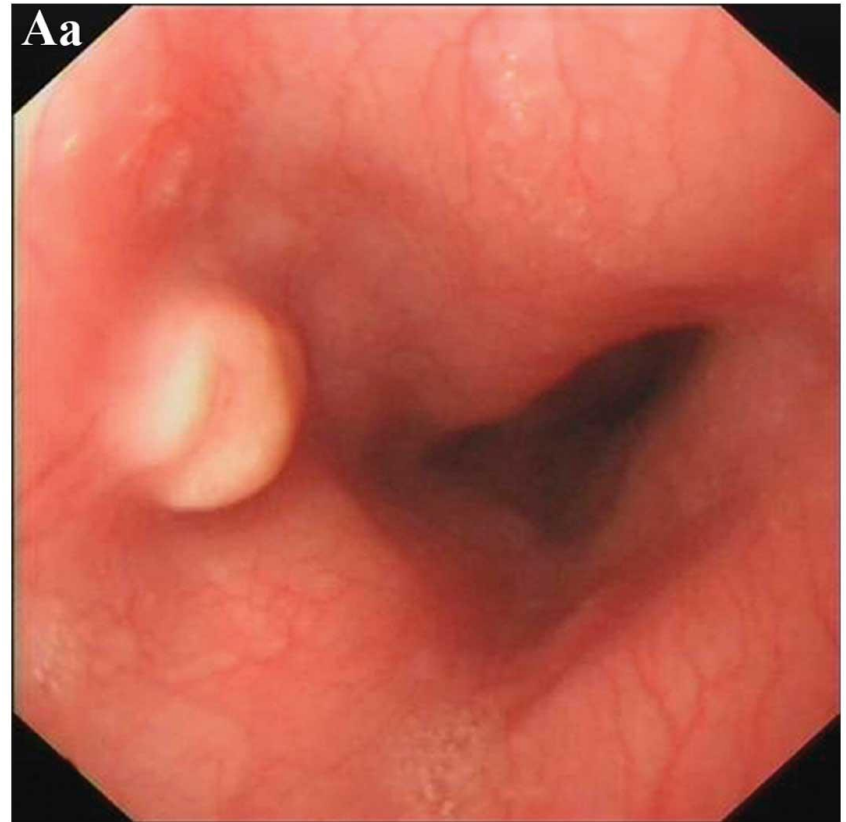
# Objectives

- Types of tumors
- What is important
- Predisposing factors
- C/ F
- Investigations
- Treatment Options
- Pros & Cons of Treatment options



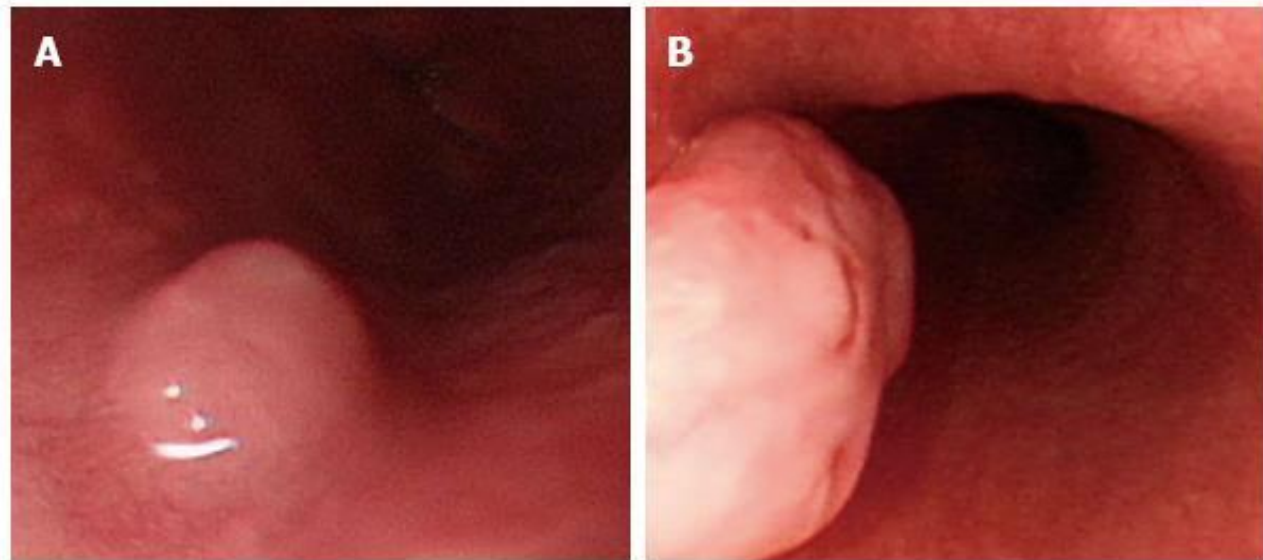
# Benign Tumors of Esophagus

- Relatively rare
- True papillomas, adenoma & hyperplastic polyps do occur
- Majority - non epithelial in origin
- Arise from other layers of esophageal wall like GIST, lipoma & granular cell tumor



# Benign Tumors of Esophagus

- Most are small & asymptomatic
- Make sure diagnosis is correct

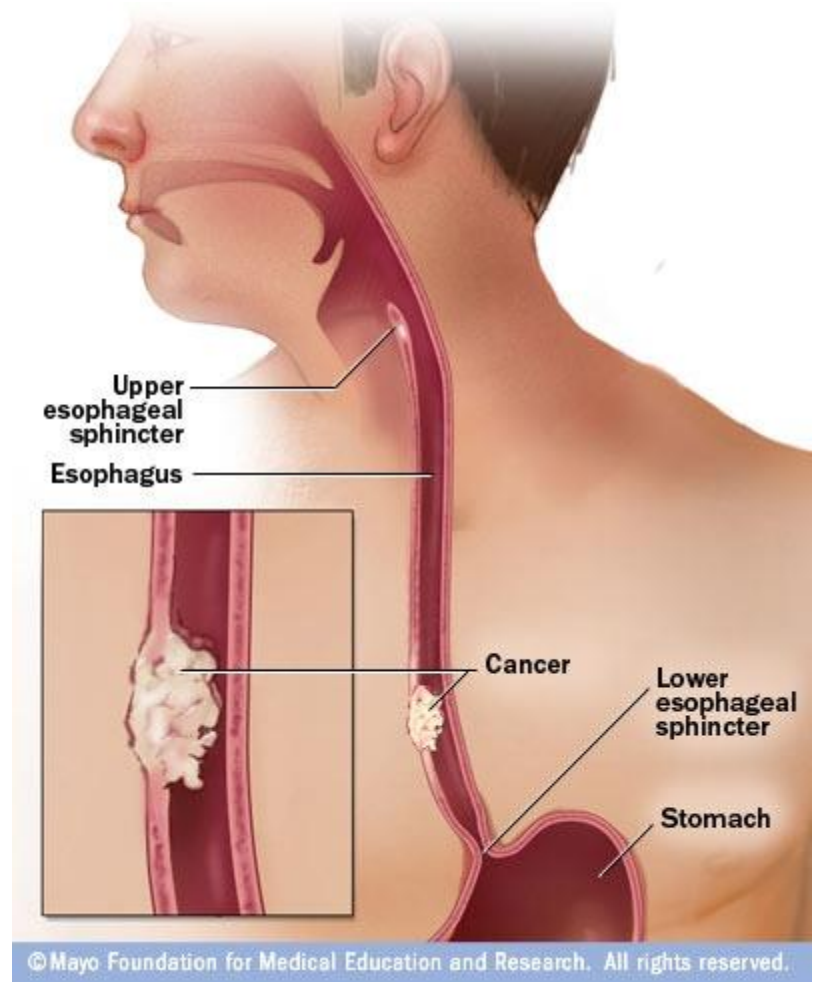


# Malignant Tumors

- Non epithelial primary malignancies rare
- Secondaries rarely involve esophagus
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- Exception is bronchogenic carcinoma – direct invasion of either primary/contagious lymph node

# Carcinoma of Esophagus

- > 90% are SCC or adenocarcinoma
- In West & USA incidence of adenocarcinoma has gone up.
- In Asian countries incidence of SCC is high especially in East Asia



# Risk Factors

- GORD
- Smoking
- Obesity
- Tylosis A
- Alcohol
- H. Pylori
- NSAIDs & Aspirin
- Barrett's esophagus
- Achalasia 3-7% Pts. get carcinoma
- 10 fold increase risk of carcinoma of esophagus
- Plummer- Vinson syndrome
- High intake of fruits & vegetables reduced risk of SCC
- Pickled food
- Low socioeconomic status



# Risk Factors

## **Squamous cell carcinoma**

- Tobacco
- Alcohol
- Caustic injury
- Achalasia
- Low socioeconomic status
- Prior head & neck cancer
- Prior thoracic irradiation
- Plummer Vinson syndrome
- Tylosis A
- Smoked meat

## **Adenocarcinoma**

- Barret's esophagus
- GORD
- Obesity
- Tobacco
- Prior thoracic irradiation
- Medications that reduce LOS tone

# Clinical Features

- Dysphagia -- 50-75%
- Weight loss – 50-60%
- 25% diagnosed at OGD for reflux or Barrett's
- Odynophagia – 20%
- Anemia
- Chest /abdominal discomfort
- Bleeding
- Recurrent nerve paralysis
- Horner syndrome
- Persistent spinal pain
- Paralysis of diaphragm
- Fistula
- Pleural effusion
- Physical examination unremarkable

# Investigations

- OGD
- CT-TAP
- PET scan – staging & prognostic tool
- Endoscopic ultrasound
- Staging laparoscopy & Peritoneal lavage
- Bronchoscopy
- EUS + FNAB most sensitive tool for depth & lymph node involvement
- EMR can give greater accuracy than EUS for tumor depth

# OGD

- Gold standard
- Level & morphology
- Biopsy
- Barrett's esophagus
- Ability to pass scope into stomach

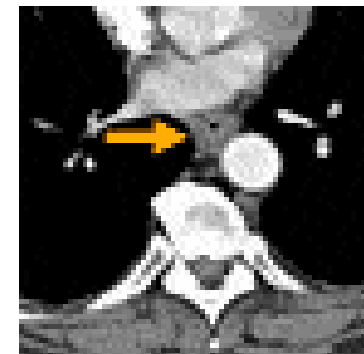


# CT- TAP

- Easily available
- Information about extent & possible invasion of tumor to adjacent structures diaphragm & aorta
- Not helpful in T1



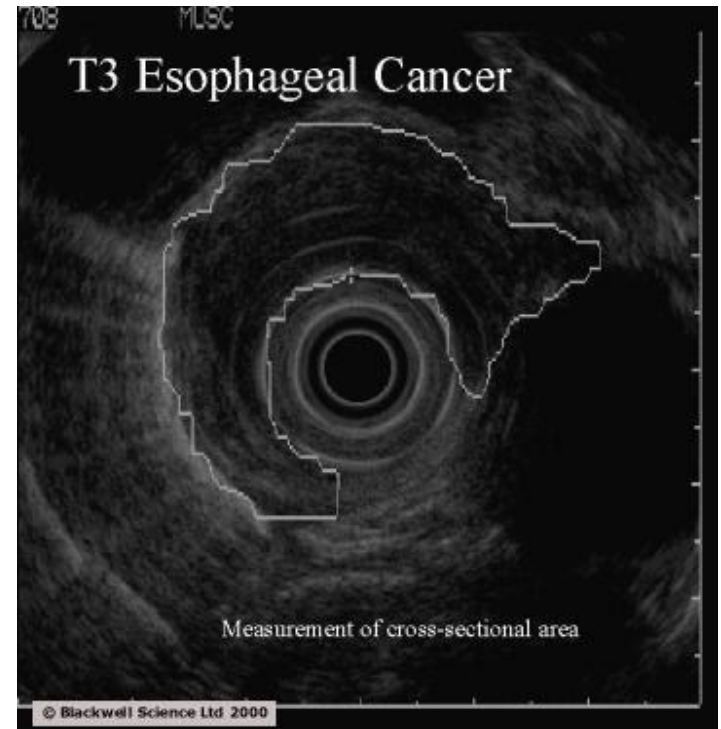
	Specificity	Sensitivity
T staging	84%	84%
N status	85%	50%
M status	91%	51%



# Endoscopic Ultrasound

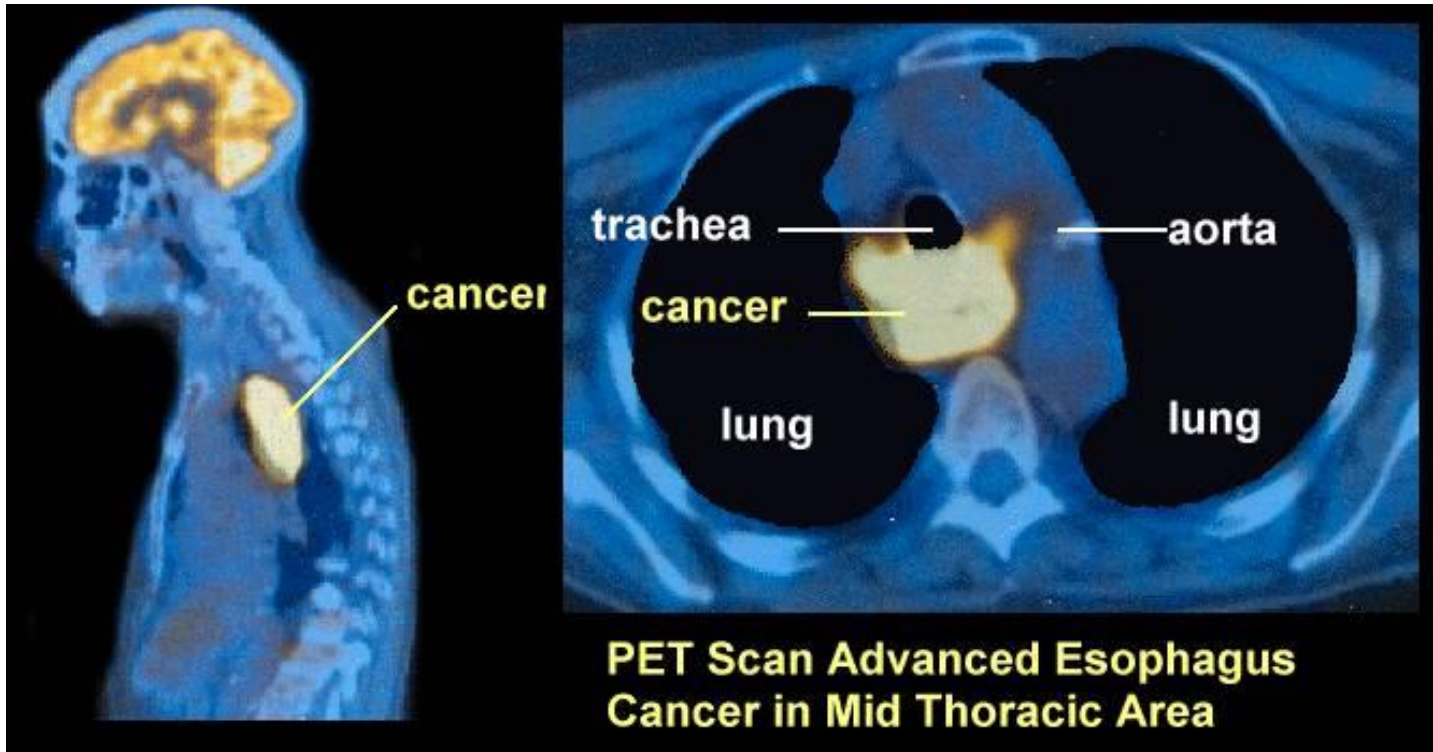
- Highest accuracy in local stage of disease
- Specificity of 70% & sensitivity of 80%
- Accuracy decreases after neoadjuvant chemotherapy
- Also limited value if scope does not pass

<b>T 3</b>	<b>83%</b>
T2	42%
T1	even < T2
Tis	Cannot be accurately done Preop.



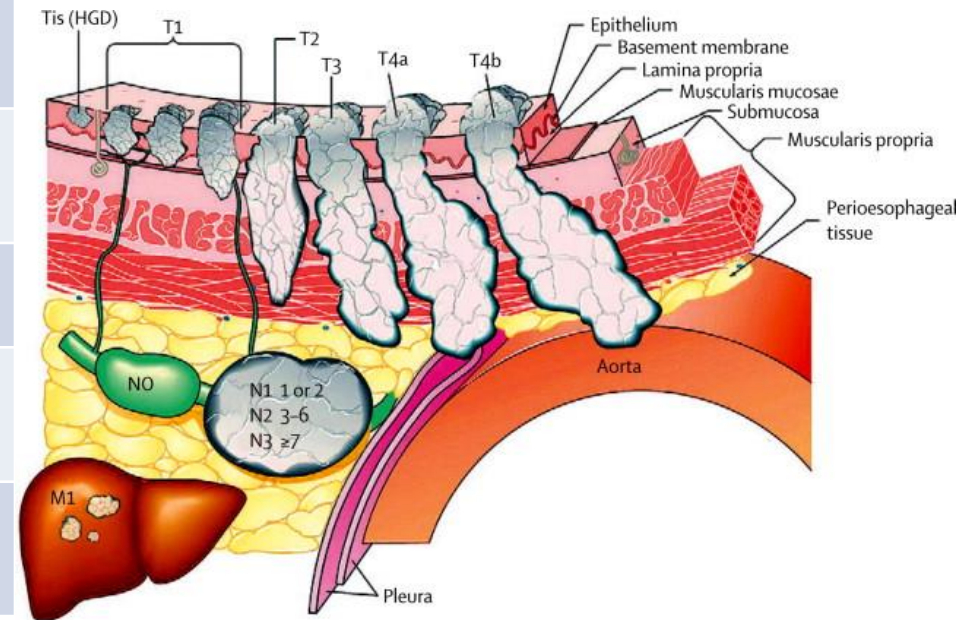
# PET Scan

- Better than CT for distant metastasis



# TNM Staging & Histological Grade

<b>TX</b>	<b>Primary tumor cannot be assessed</b>
<b>T0</b>	No evidence of primary tumor
<b>Tis</b>	High grade dysplasia
<b>T1</b>	Tumor invades lamina propria or submucosa
<b>T2</b>	Tumor invades muscularis propria
<b>T3</b>	Tumor invades adventitia
<b>T4a</b>	Resectable Tumor invading pleura, pericardium & diaphragm
<b>T4b</b>	Unresectable tumor invading aorta, vertebral body & trachea





# TNM Staging & Histological Grade

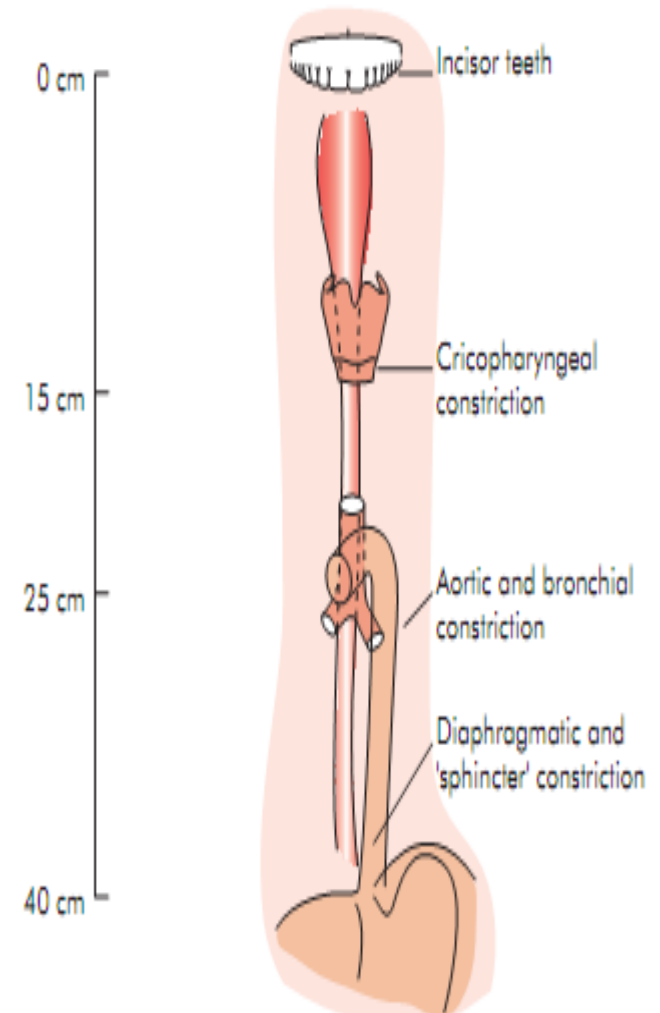
<b>N0</b>	<b>No regional lymph node metastasis</b>
N1	1 to 2 positive lymph nodes
N2	3 to 6 positive lymph nodes
N3	7 or more positive regional lymph nodes

<b>G1</b>	<b>Well differentiated</b>
G2	Moderately differentiated
G3	Poorly differentiated
G4	Undifferentiated

<b>M0</b>	<b>No distant metastases</b>
M1	Distant metastases

# Definition of Cancer Location

Upper thoracic	Proximal tumor margin is 20-25 cm from incisors
Middle thoracic	Proximal tumor margin is >25 to 30cm from incisors
Lower thoracic	Proximal tumor margin is > 30 to 40 cm from incisors
Gastroesophageal junction	Includes tumors whose epicenter is in distal thoracic esophagus, GOJ, or within proximal 5cm of stomach that extends into GOJ or esophagus



# MDT Meeting For Management Plan

- Fitness of Patient
- Stage of disease
- Surgery , radiation or chemotherapy
- Palliation by stent, radiation, LASER etc

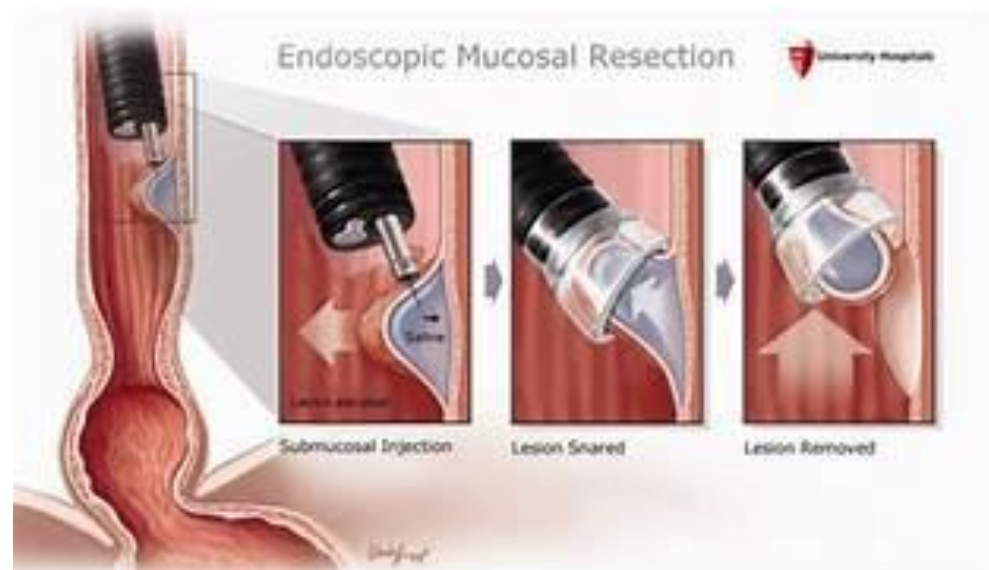


# Management of Early Disease

- Screening ?
- HGD in Barrett esophagus – Treatment controversial
- HGD in Barrett esophagus mostly have carcinoma in situ or intra mucosal carcinoma & not early invasive carcinoma
- Incidence of invasive cancer is only 12% in these pts.

# Management of Early Disease

- Esophagectomy high morbidity & mortality, so conservative approach by some centre
1. Intensive surveillance by OGD+ biopsy
  2. Focal EMR at HGD
  3. Complete eradication of Barrett with EMR & mucosal ablation



# Management of Early Disease

- Early invasive cancer(T1N0M0)--  
esophagectomy
- In T1N0 lymph nodes involved  
only in < 5%, So
- EMR
- Endoscopic ablation
- Vagal sparing esophagectomy  
can be done
- T1 N0 with penetration into  
submucosa lymph node  
metastasis > 30 % so
- conventional esophagectomy

# Management of Regionally Advanced Disease

- Optimal management of T2-T4a  
N0-3 is controversial
- Surgery alone was traditional
- 
- Surgery ,radiation &  
chemotherapy in USA
- **BUT** in West Surgery alone  
mainstay

# Management of Regionally Advanced Disease

- 6 randomized controlled trials & two large meta-analysis – no difference in preoperative radiation followed by surgery & surgery alone
- Preoperative chemotherapy followed by surgery & surgery alone – 6 randomized control trials & 4 meta-analysis– No significant difference
- 20-25% Pts. Neo adjuvant chemo radiation followed by surgery had pathologic complete response
- This Pts. Cohort demonstrate considerably longer 5-yrs survival (50%) than Pts. without pathologic complete response



# Management of Regionally Advanced Disease

Ivor Lewis (Two hole )

- T3- T4a or any regional nodal involvement -- should undergo surgery+ adjuvant therapy

McKeown (Three hole)

- T4b is unresectable so radiotherapy & chemotherapy

Transhiatal approach

- T3, T4a with > 6 lymph nodes need bimodal treatment by chemotherapy & radiotherapy

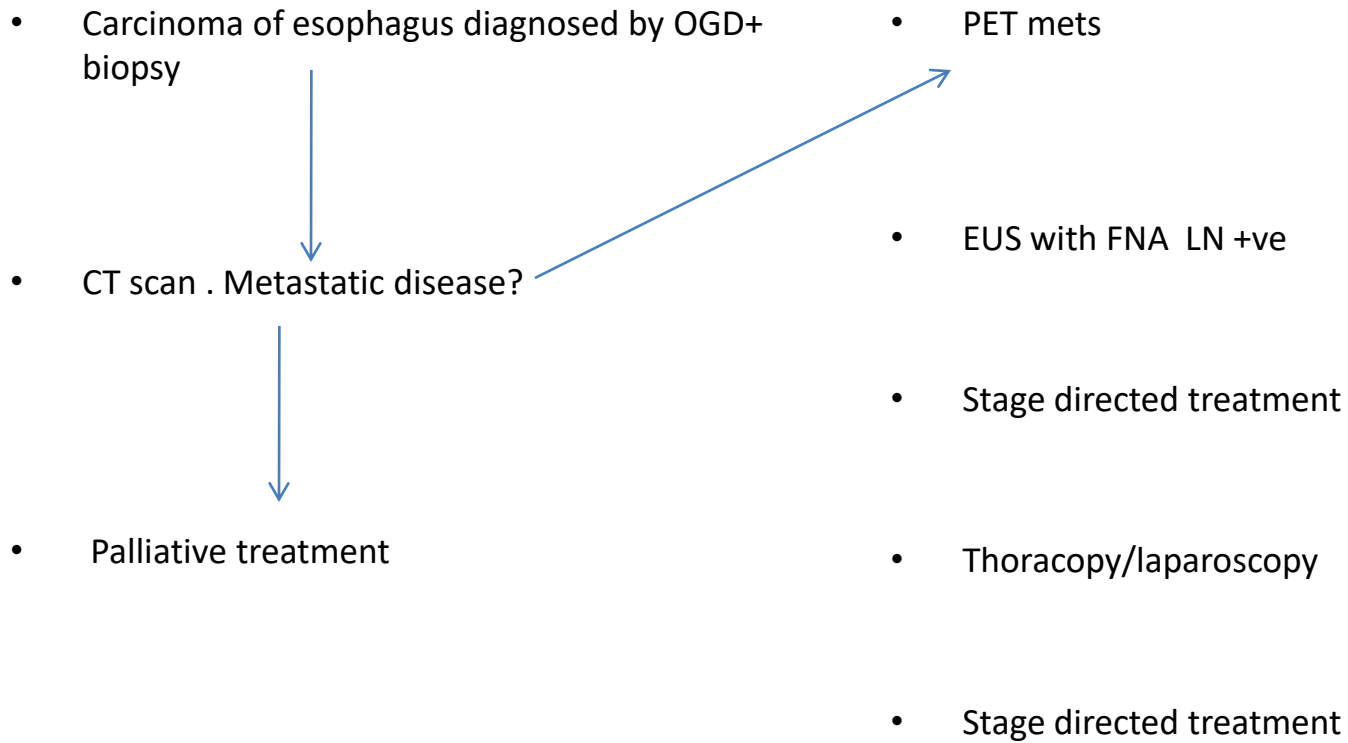
Minimal invasive Esophagectomy

# Postoperative Management

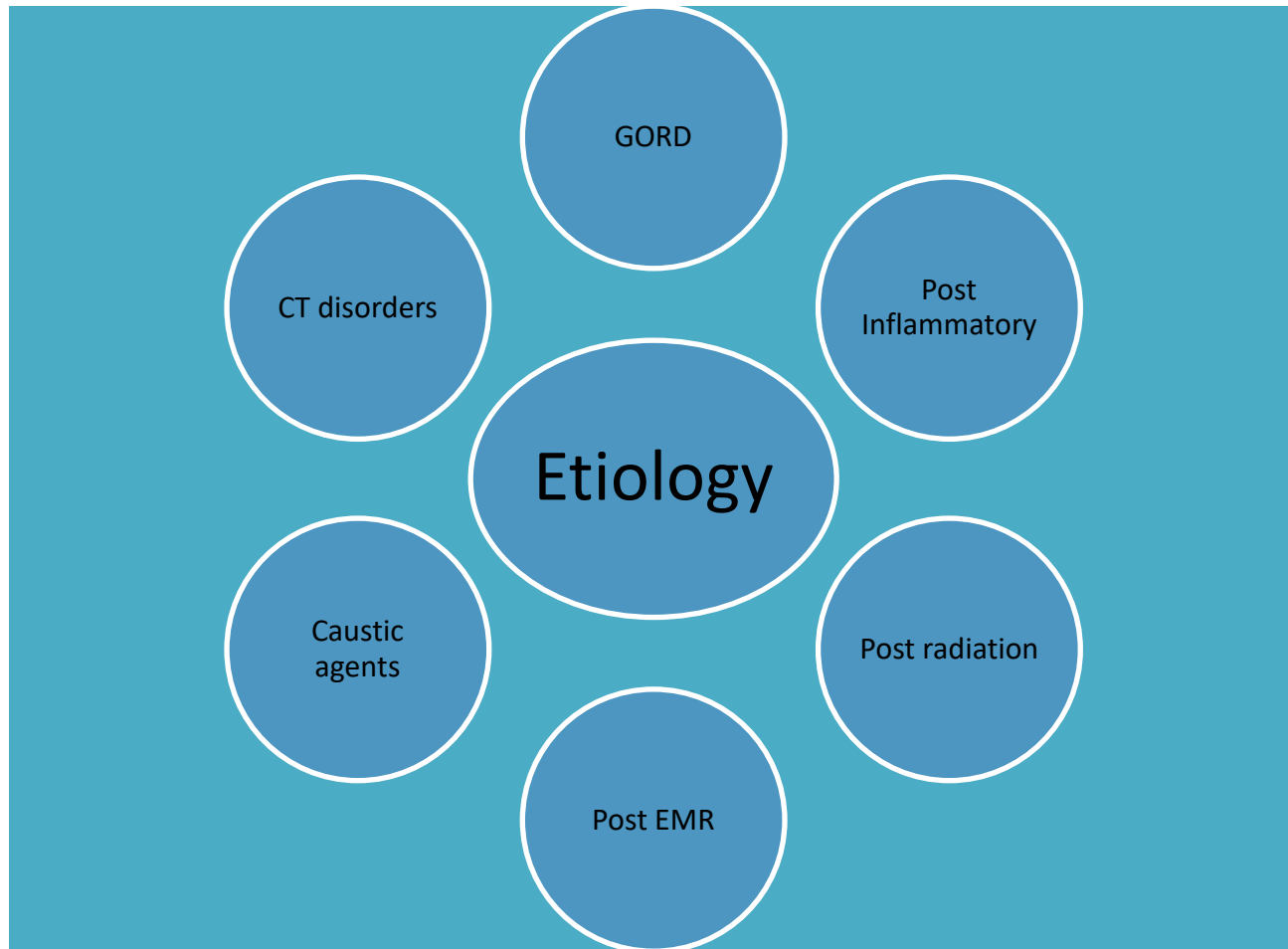
- Close monitoring overnight
- Chest tube management
- Feeding jejunostomy
- NG tube until bowel work (3-5/7)
- Ba swallow to check anastomosis

# Follow –up & Surveillance

- Pts with EMR or with local therapy for Tis or T1 need OGD every 3/12 for 1 year. & annually
- OGD if dysphagia at any stage
- CT-TAP ears 6/12 for 2 yrs. & then annually for 5 yrs.



# Benign Esophageal Strictures



# Management

- Dysphagia
- Try to find cause & effects
- Ba swallow
- OGD + cytology/ biopsy
- Dilatation by bougies
- Balloon dilatation
- Stent insertion
- Surgery

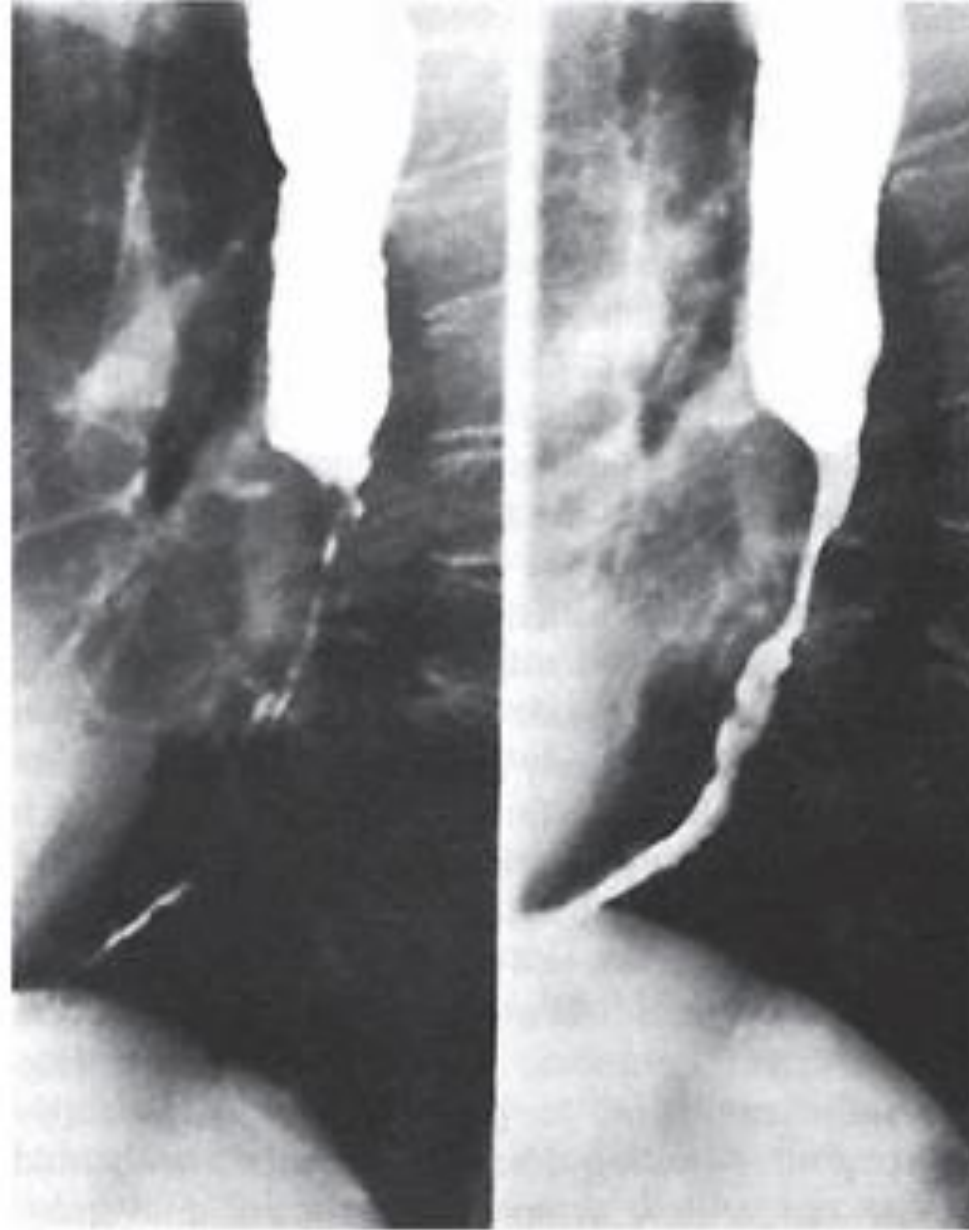


Figure 22.21 Barium swallow showing severe reflux stricture. It exceeds 3.0 cm in length.