# Diseases of the esophagus 2

Manar Hajeer, MD, FRCPath

University of Jordan, School of medicine

# Reflux Esophagitis

- Reflux of gastric contents into the lower esophagus
- Most frequent cause of esophagitis
- Most common complaint by patients
- Gastroesophageal reflux disease, GERD

- Squamous epithelium is sensitive to acids
- Protective forces: mucin and bicarbonate, high LES tone

# Pathogenesis

- Decreased lower esophageal sphincter tone

  (alcohol, tobacco, CNS depressants)

- Increase abdominal pressure

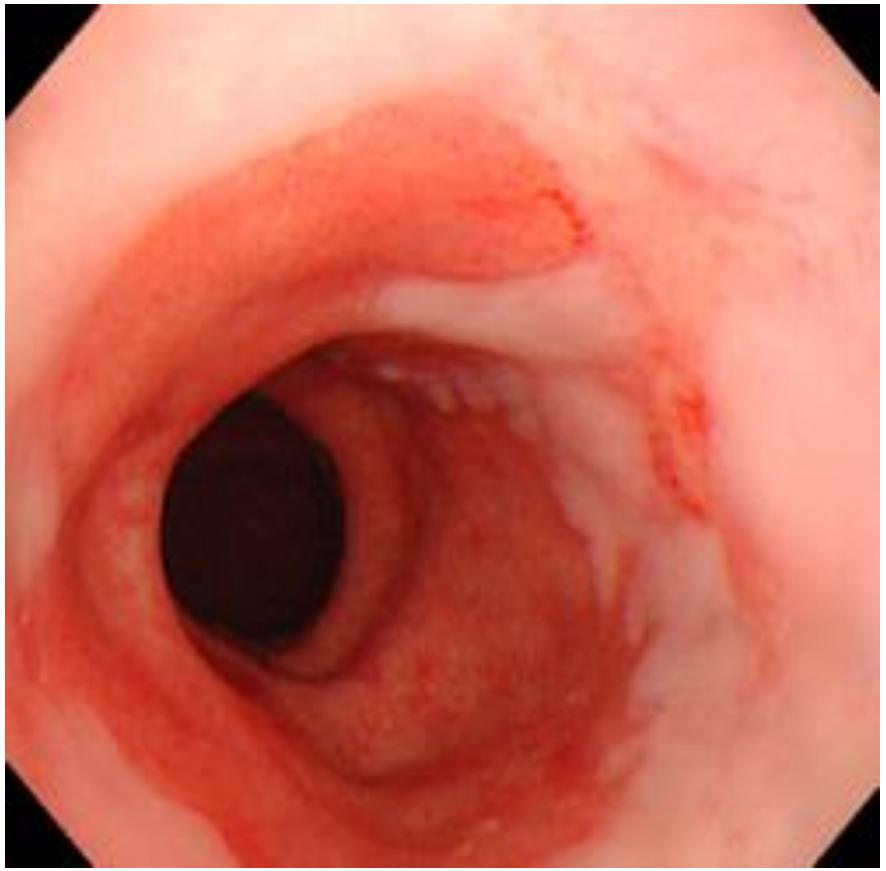
  ( obesity,, pregnancy, hiatal hernia, delayed gastric emptying, and increased gastric volume)

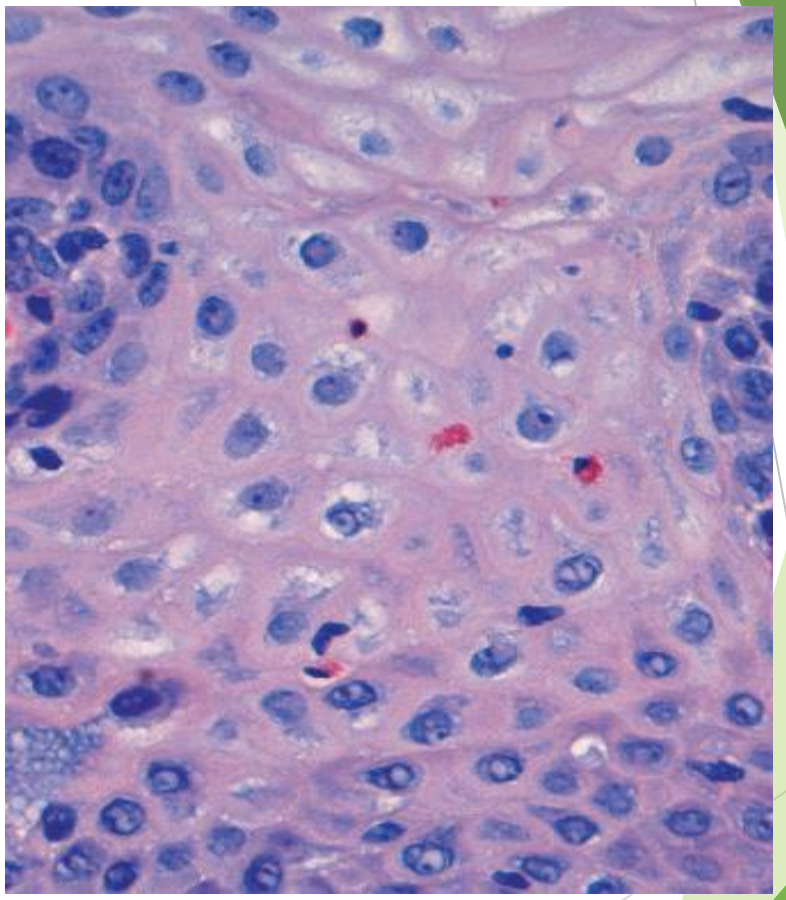
- Idiopathic!!

# MORPHOLOGY

- Macroscopy (endoscopy)
- Depends on severity (Unremarkable, Simple hyperemia (red)

- Microscopic:
- Eosinophils infiltration
- Followed by neutrophils (more severe).
- Basal zone hyperplasia
- Elongation of lamina propria papillae





nature.com

Robbins Basic Pathology 10th edition

# Clinical Features

- Most common over 40 years.
- May occur in infants and children
- Heartburn , dysphagia,
- Regurgitation  of sour-tasting gastric contents
- Rarely: Severe  chest pain, mistaken for heart disease

- Tx: proton pump inhibitors

# Complications

- Esophageal ulceration
- Hematemesis
- Melena
- Strictures
- Barrett esophagus (precursor of Ca.)

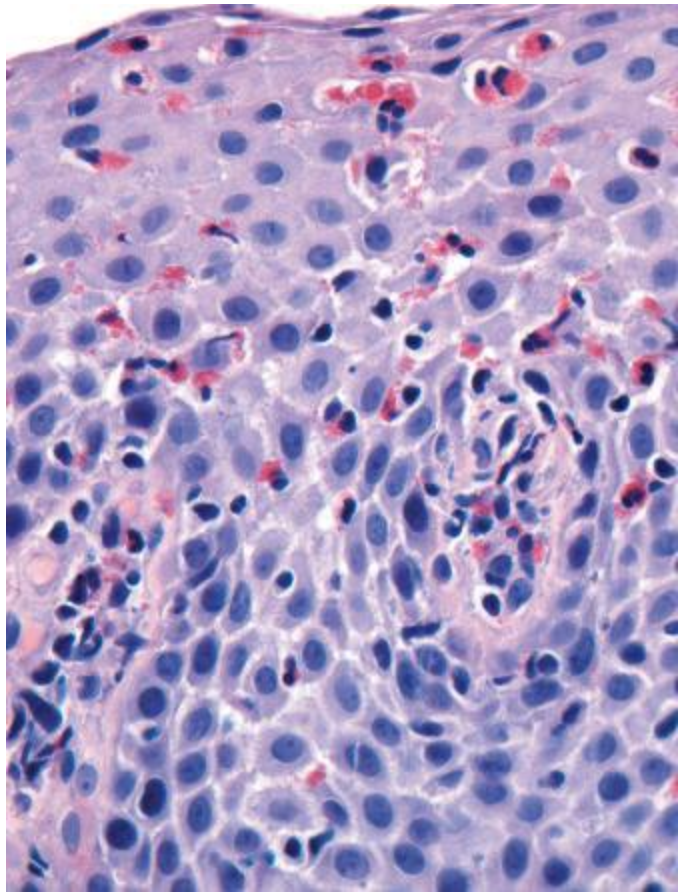
# Eosinophilic Esophagitis

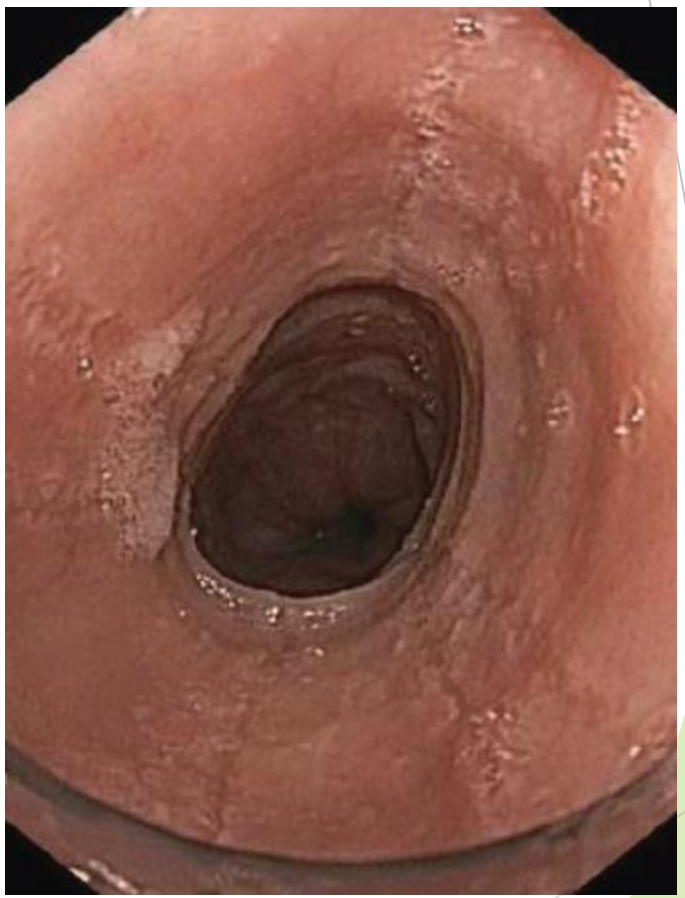
- Chronic  immune mediated disorder

- Symptoms:
- Food impaction and dysphagia in adults
- Feeding intolerance or GERD-like symptoms in children

- Endoscopy:
- Rings in the upper and mid esophagus.

- Microscopic:
- Numerous eosinophils w/n epithelium
- Far from the GEJ.





Robbins Basic Pathology 10th edition

- Most patients are: atopic (atopic dermatitis, allergic rhinitis, asthma) or modest peripheral eosinophilia.

- Tx:
- Dietary  restrictions( cow milk and soy products)
- Topical  or systemic corticosteroids.
- Refractory to PPIs.

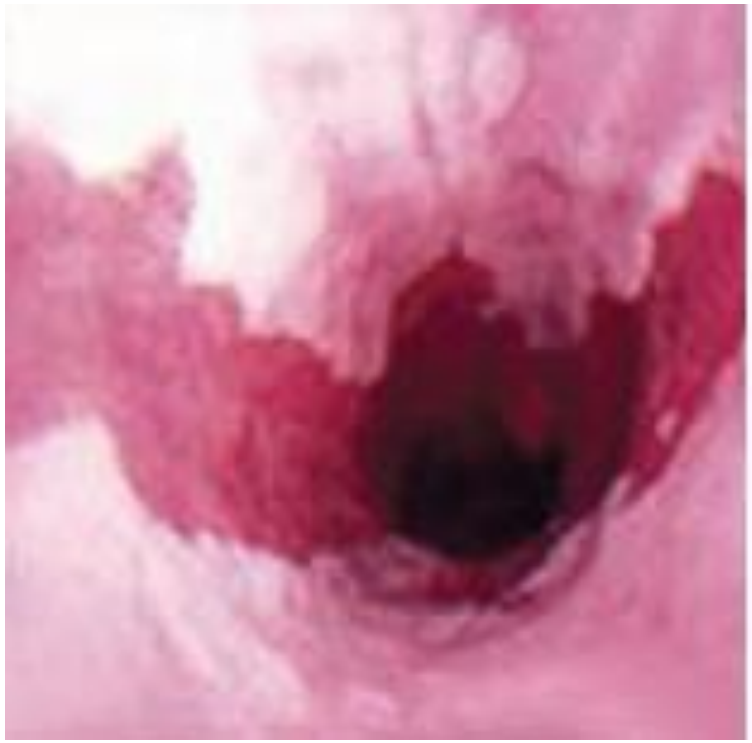
# Barrett Esophagus

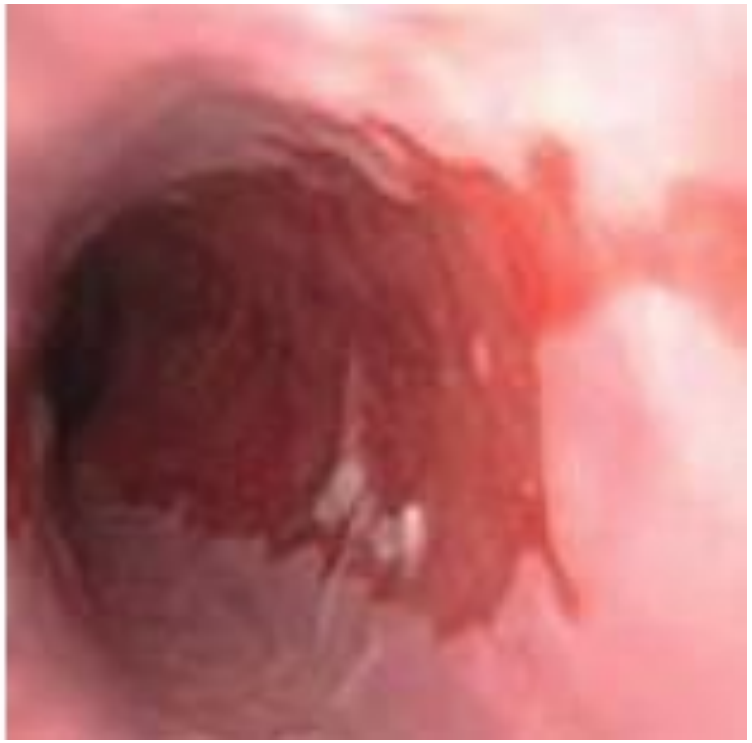
- Complication of chronic GERD
- Intestinal metaplasia within the esophageal squamous mucosa.
- 10% of individuals with symptomatic GERD
- Males>>females, 40-60 yrs
- **Direct precursor of esophageal adenocarcinoma**
- **Metaplasia >> 0.2-1% /year >>dysplasia>> adenocarcinoma**.

# MORPHOLOGY

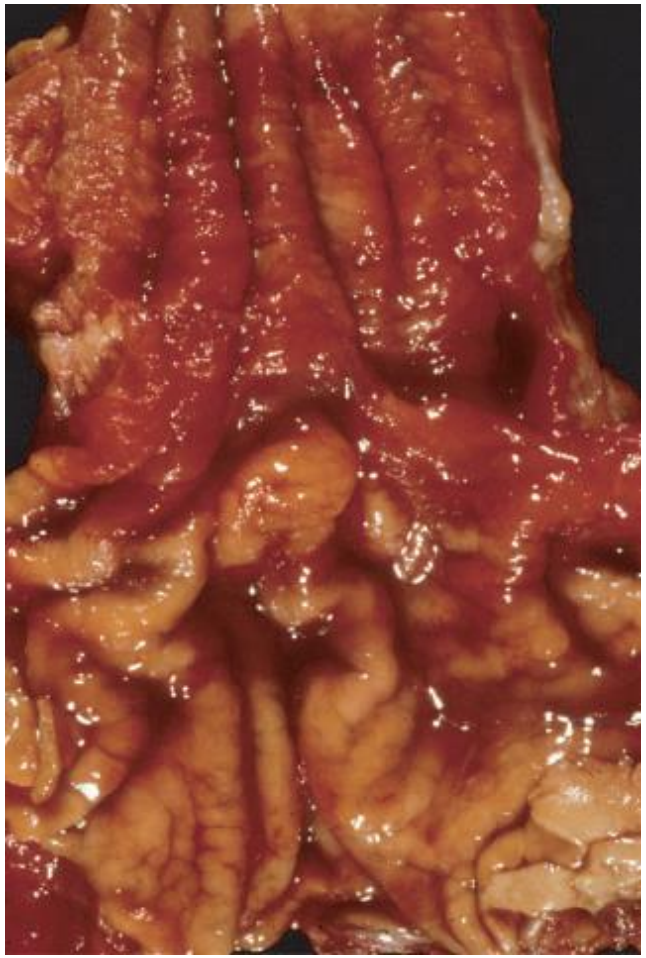
- Endoscopy:
- Red tongues extending upward from the GEJ.

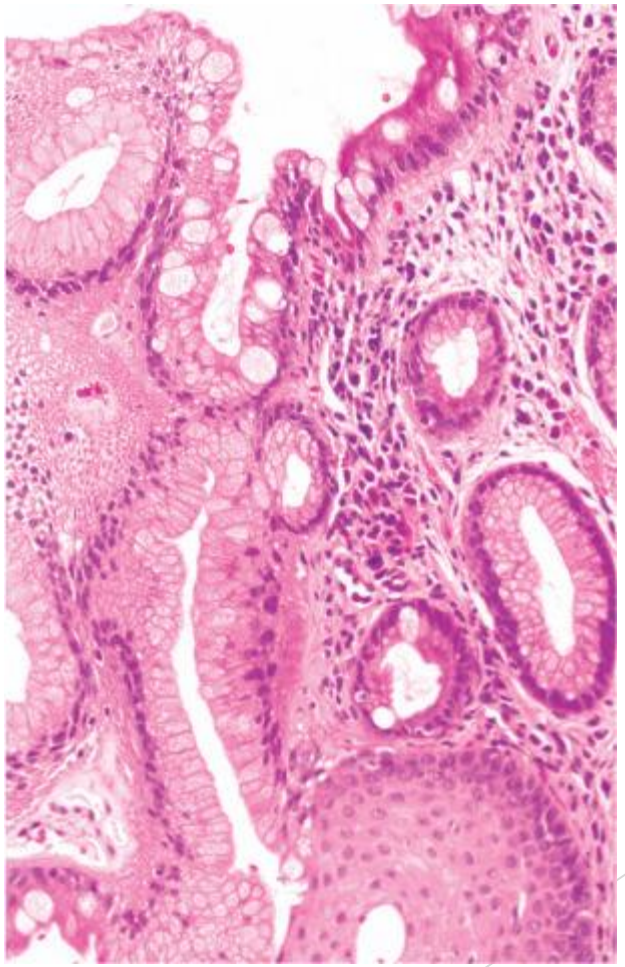
- Histology:
- Gastric  or intestinal metaplasia
- Presence of goblet cells
- +-Dysplasia : low-grade or high-grade
- Intramucosal carcinoma:invasion into the lamina propria.



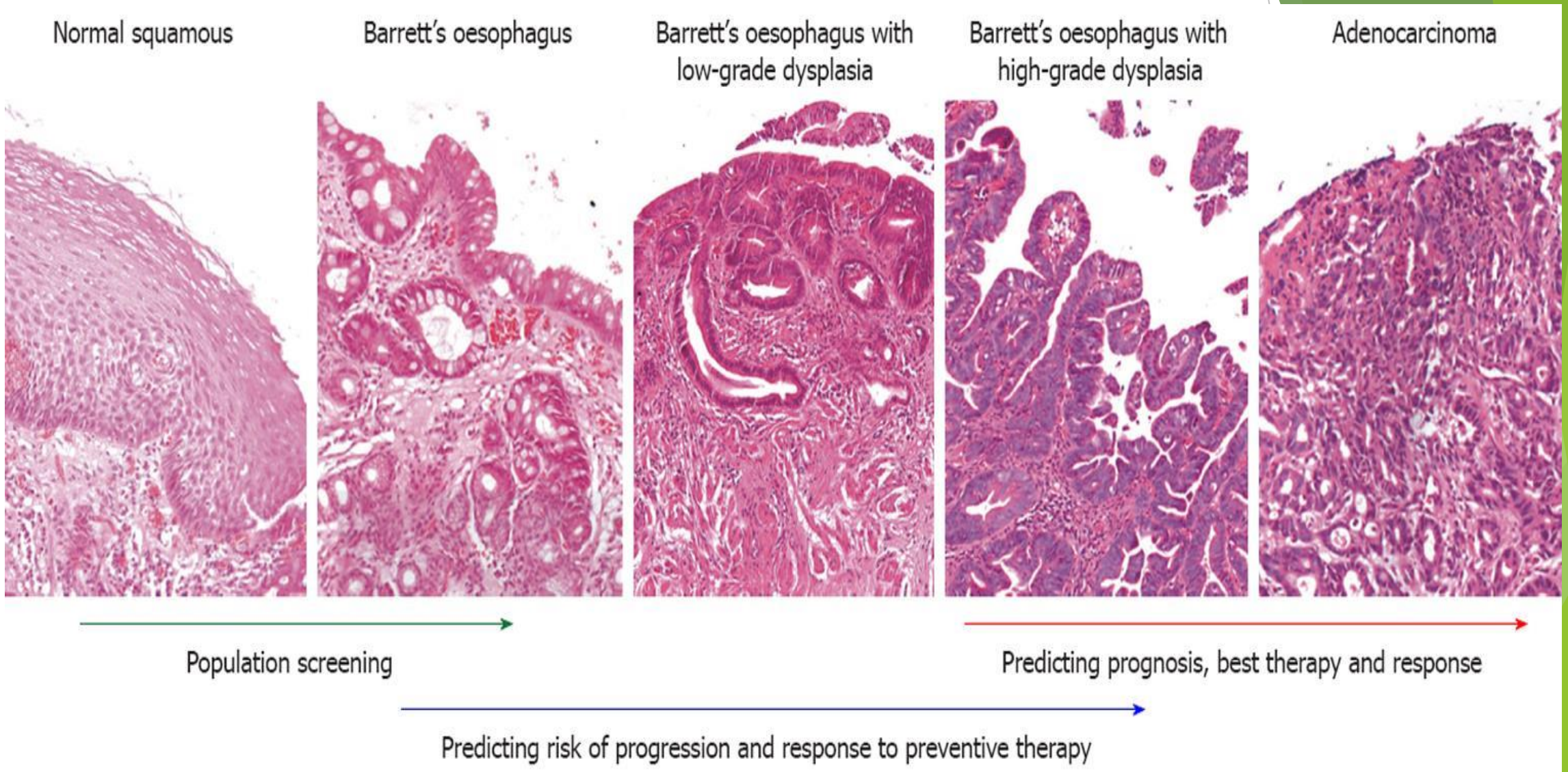


Gastroenterology Consultants of San Antonio





Robbins Basic Pathology 10th edition


Normal squamous
Barrett's oesophagus
Barrett's oesophagus with low-grade dysplasia
Barrett's oesophagus with high-grade dysplasia
Adenocarcinoma
Population screening
Predicting prognosis, best therapy and response
Predicting risk of progression and response to preventive therapy

# Management of Barrett

- Periodic  surveillance endoscopy with biopsy to screen for dysplasia.
- High grade dysplasia & intramucosal carcinoma needs interventions.

# ESOPHAGEAL TUMORS

- Squamous cell carcinoma (most common worldwide)
- Adenocarcinoma (on the rise, half of cases)

# Adenocarcinoma

- Background of Barrett esophagus and long-standing GERD.
- Risk factors: dysplasia associated Barrett, smoking, obesity, radioTx.
- Male : female (7:1)
- Geographic & racial variation (developed countries)

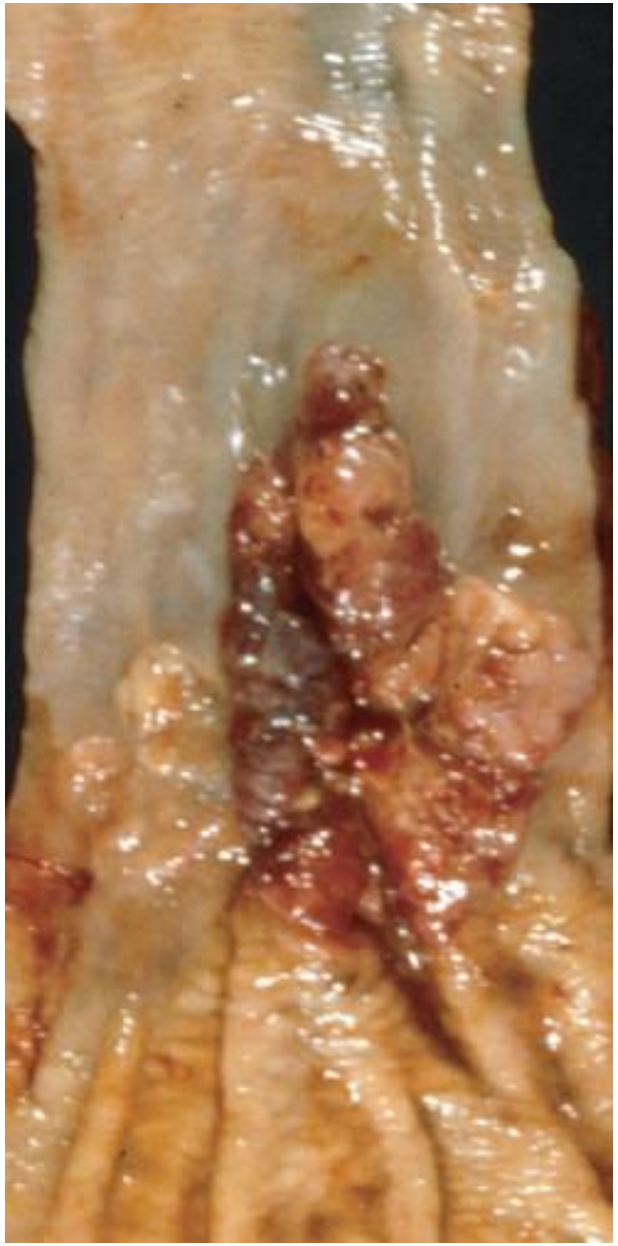
# Pathogenesis

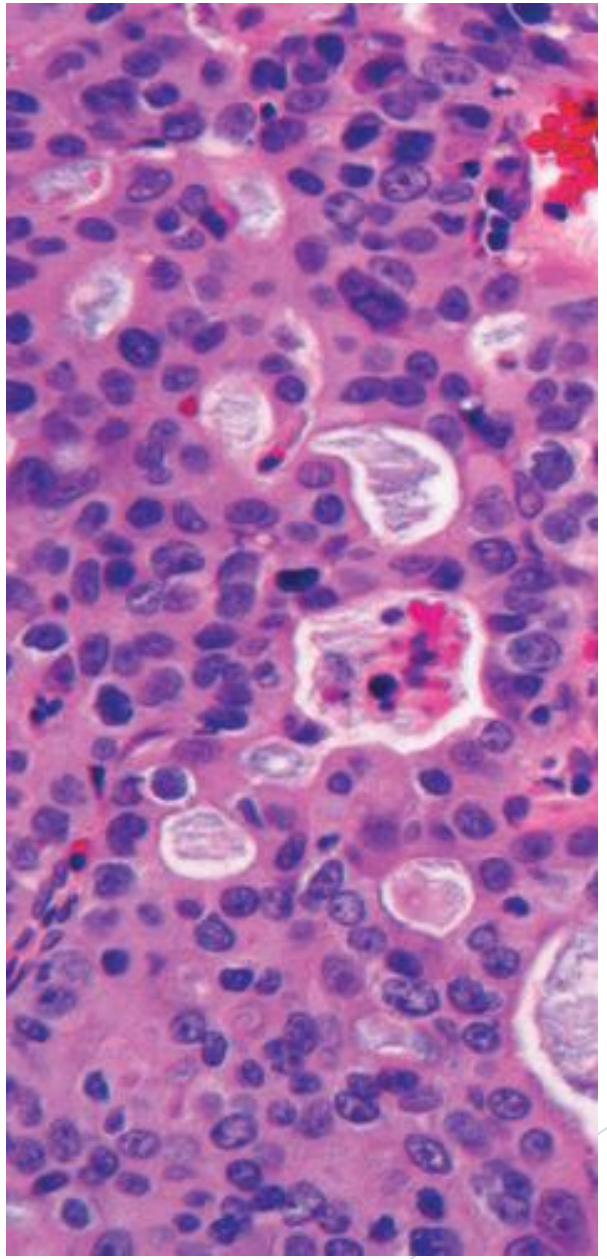
- From Barrett>>dysplasia>>adenocarcinoma
- Acquisition  of genetic and epigenetic changes.
- Chromosomal abnormalities and TP53 mutation.

# MORPHOLOGY

- Distal third.
- Early: flat or raised patches
- Later: exophytic infiltrative masses

- Microscopy:
- Forms glands and mucin.





Robbins Basic Pathology 10th edition

# Clinical Features

- Pain or difficulty swallowing
- Progressive weight loss
- Chest pain
- Vomiting.
- Advanced stage at diagnosis: 5-year survival <25%.
- Early stage: 5-year survival 80%

# Squamous Cell Carcinoma

- Male : female (4:1)
- Underdeveloped countries.

- **Risk factors:**
- Alcohol
- Tobacco use
- Poverty
- Caustic injury
- Achalasia .
- Plummer-Vinson syndrome
- Frequent consumption of very hot beverages
- Previous radiation Tx .

# Pathogenesis

- In western : alcohol and tobacco use.
- Other areas: polycyclic hydrocarbons, nitrosamines, fungus-contaminated foods
- HPV infection implemented in high risk regions.

# MORPHOLOGY

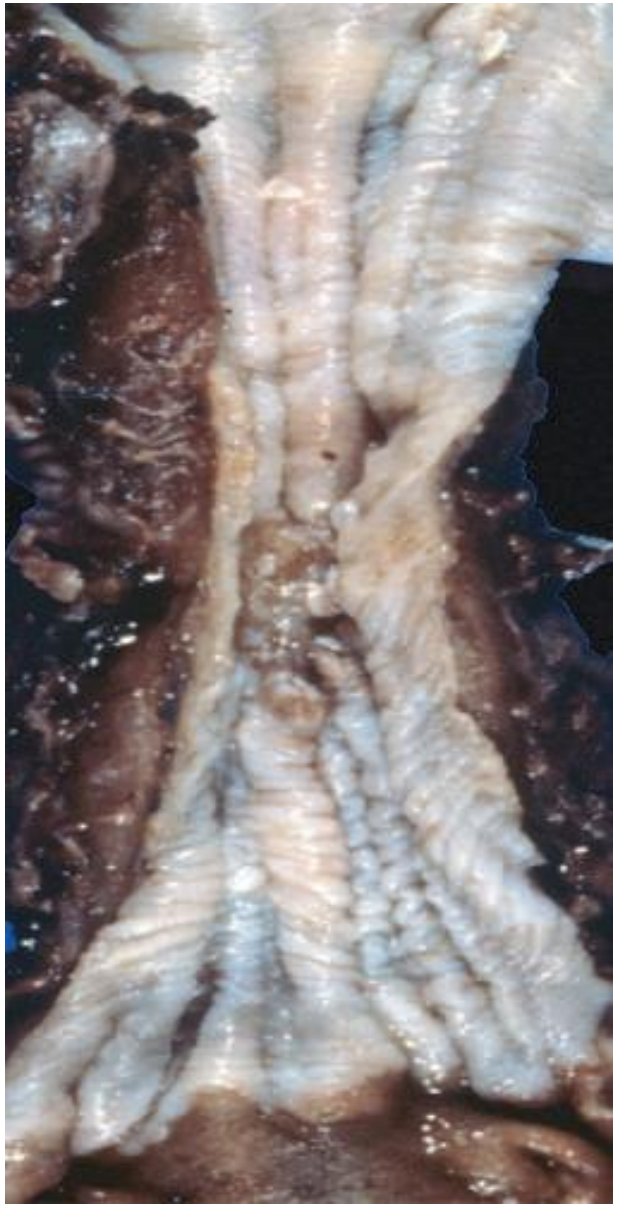
- Middle  third (50% of cases)
- Polypoid, ulcerated, or infiltrative.
- Wall thickening, lumen narrowing
- Invade surrounding structures (bronchi, mediastinum, pericardium, aorta).

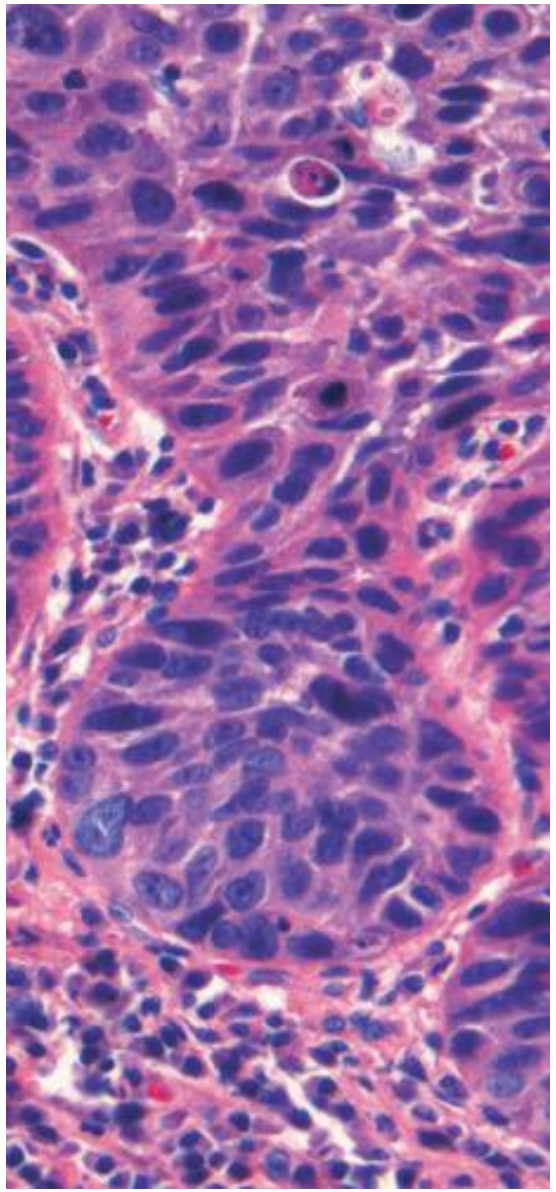
# Microscopy:

- Pre-invasive: Squamous dysplasia & CIS.
- Well to moderately differentiated invasive SCC.
- Intramural tumor nodules
- Lymph node metastases :
- Upper 1/3: cervical LNs
- Middle 1/3: mediastinalparatracheal, and tracheobronchial LNs.
- Lower 1/3: gastric and celiac LNs.

# Clinical Features

- Dysphagia
- Odynophagia
- Obstruction
- Weight loss and debilitation
- Impaired nutrition & tumor associated cachexia
- Hemorrhage and sepsis if ulcerated.
- Aspiration via a tracheoesophageal fistula
- Dismal Px: 5 year survival <9%





Robbins Basic Pathology 10th edition