Diseases of the esophagus 2

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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

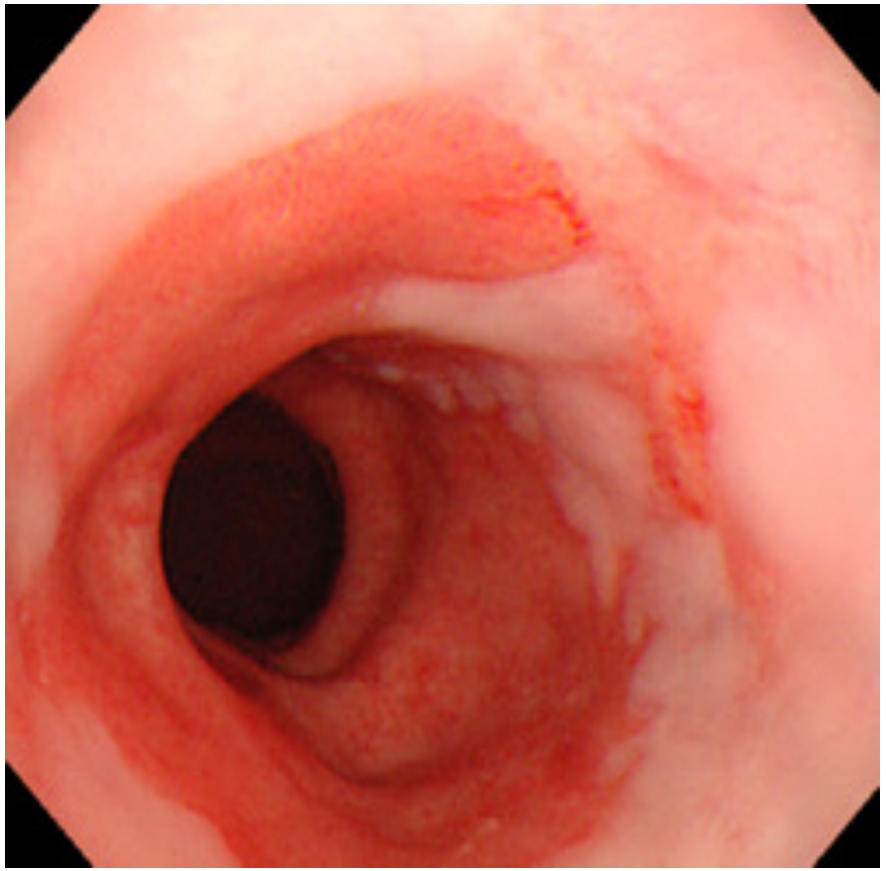
  (obesity,, pregnancy, hiatal hernia, delayed gastric emptying, and increased gastric volume)

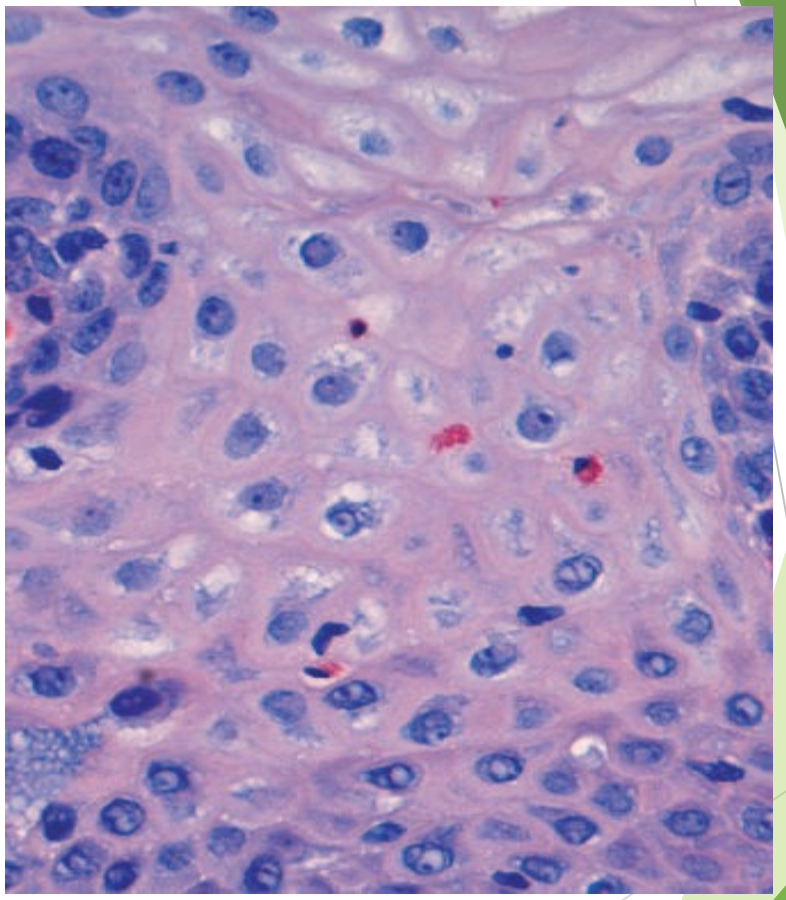
- Idiopathic!!

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





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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.)

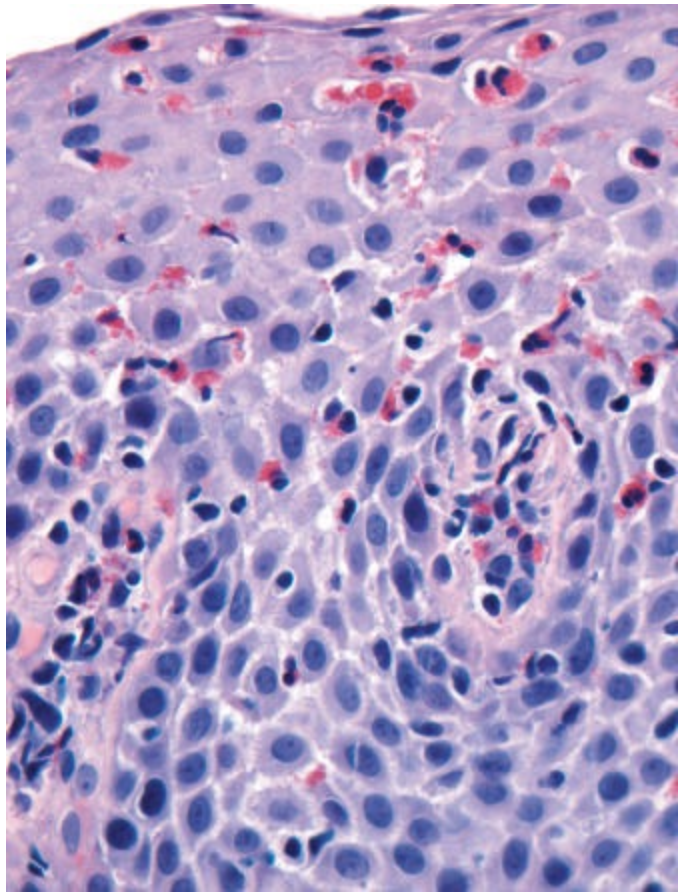
Eosinophilic Esophagitis

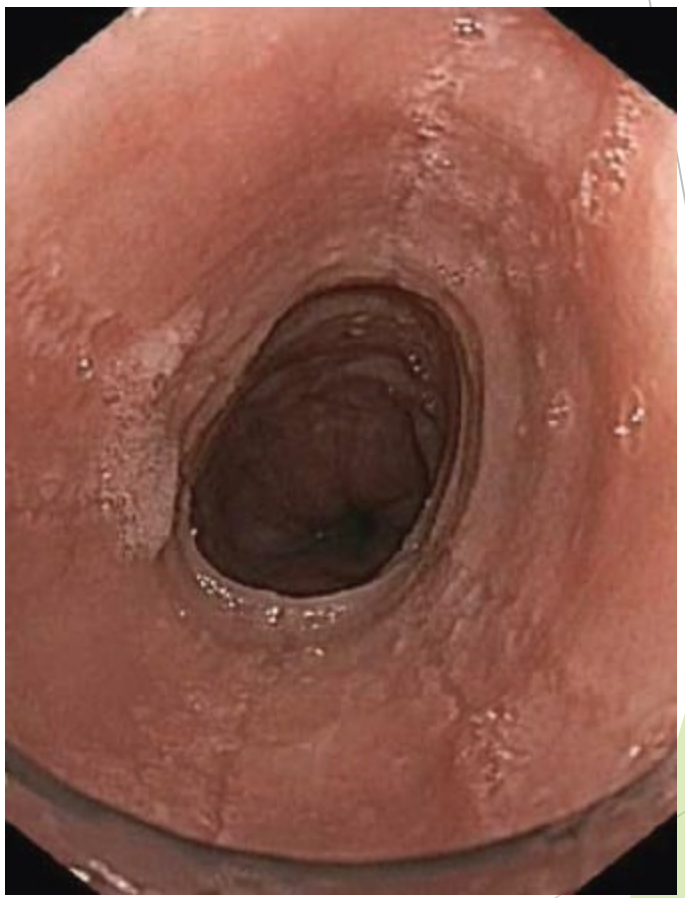
- Chronic immune mediated disorder

- 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.





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- 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.

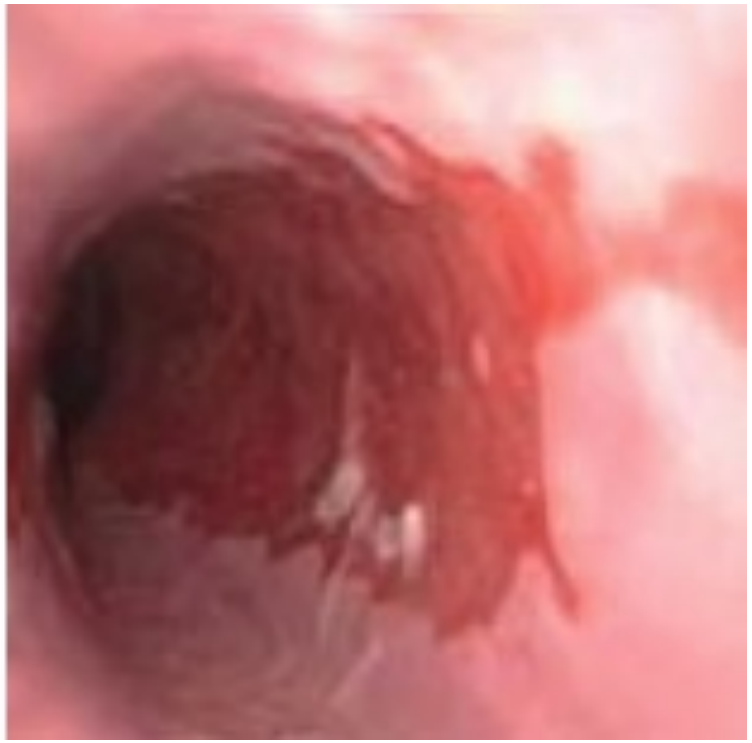
Barrett Esophagus

- 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.



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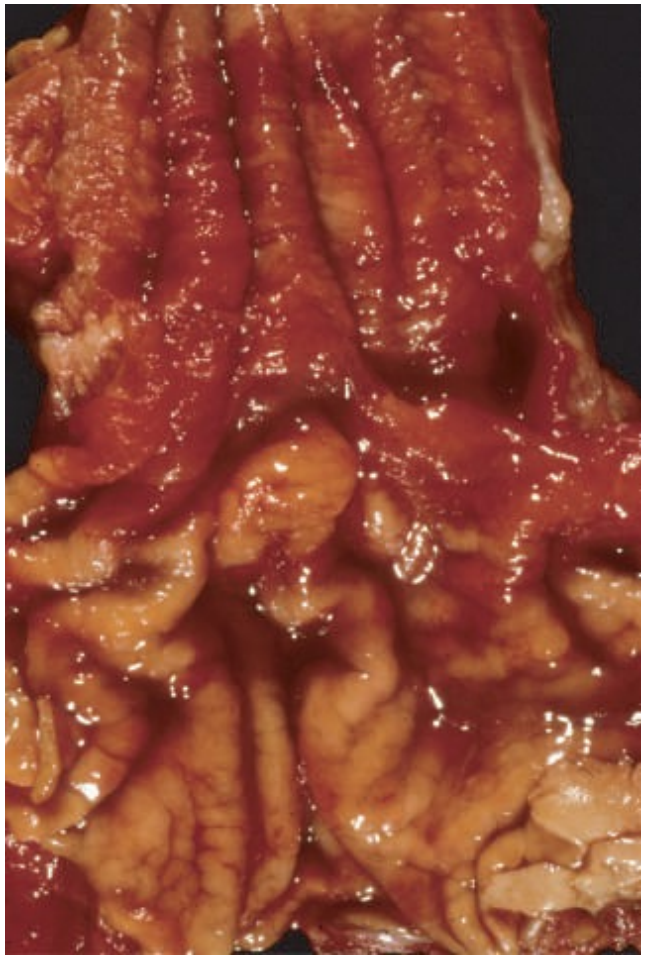

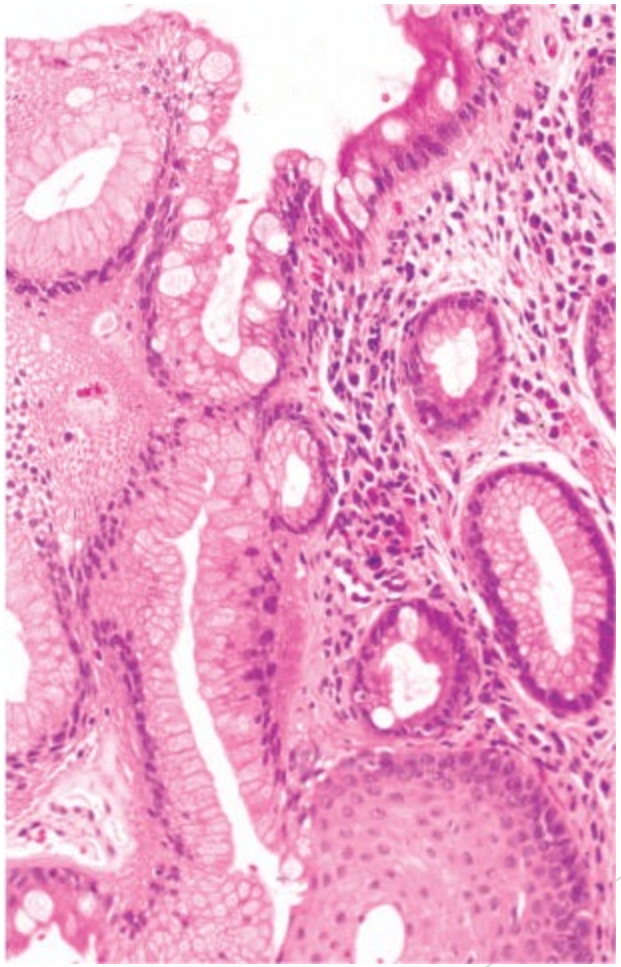

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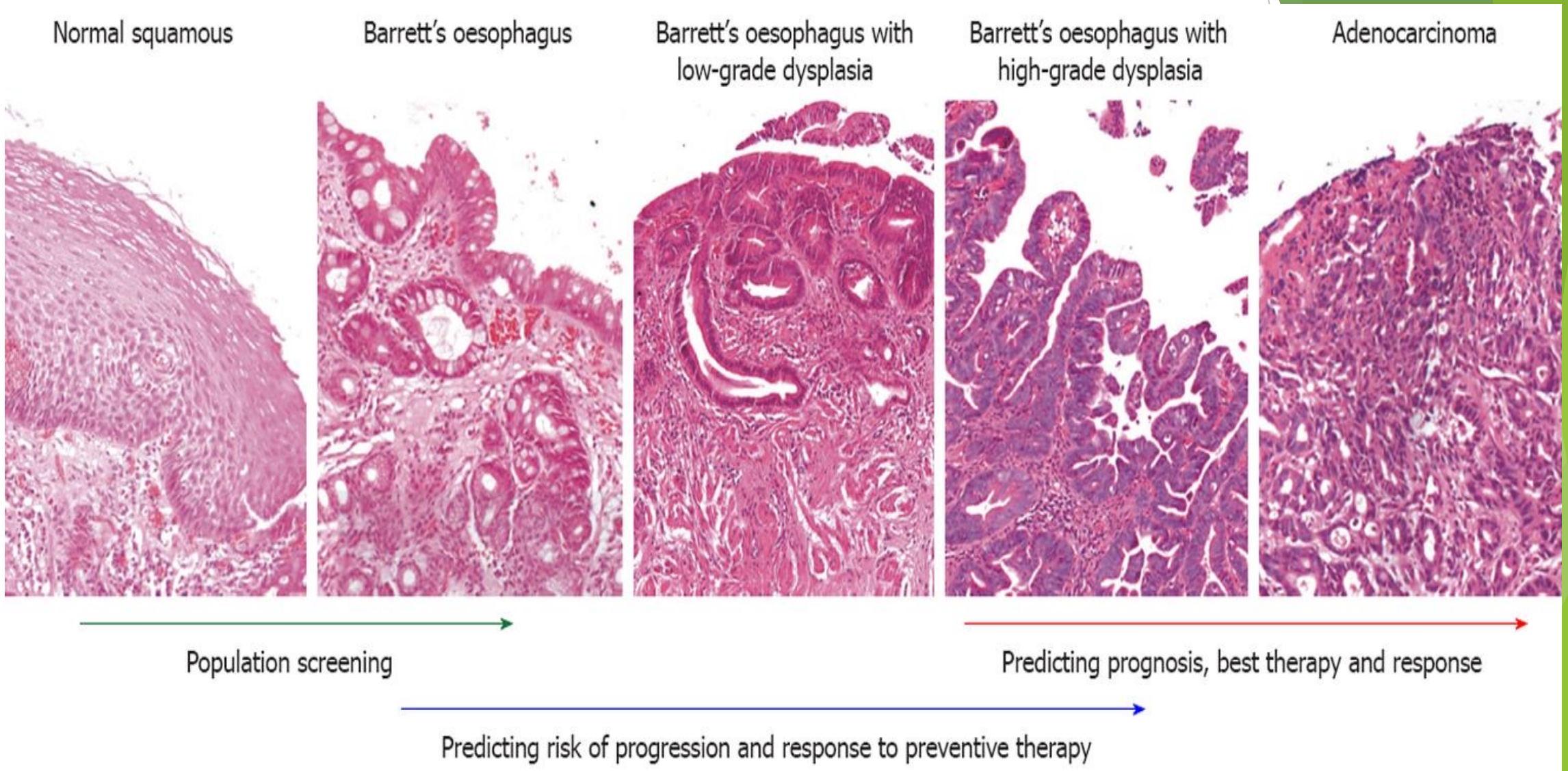


Management of Barrett

- 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)

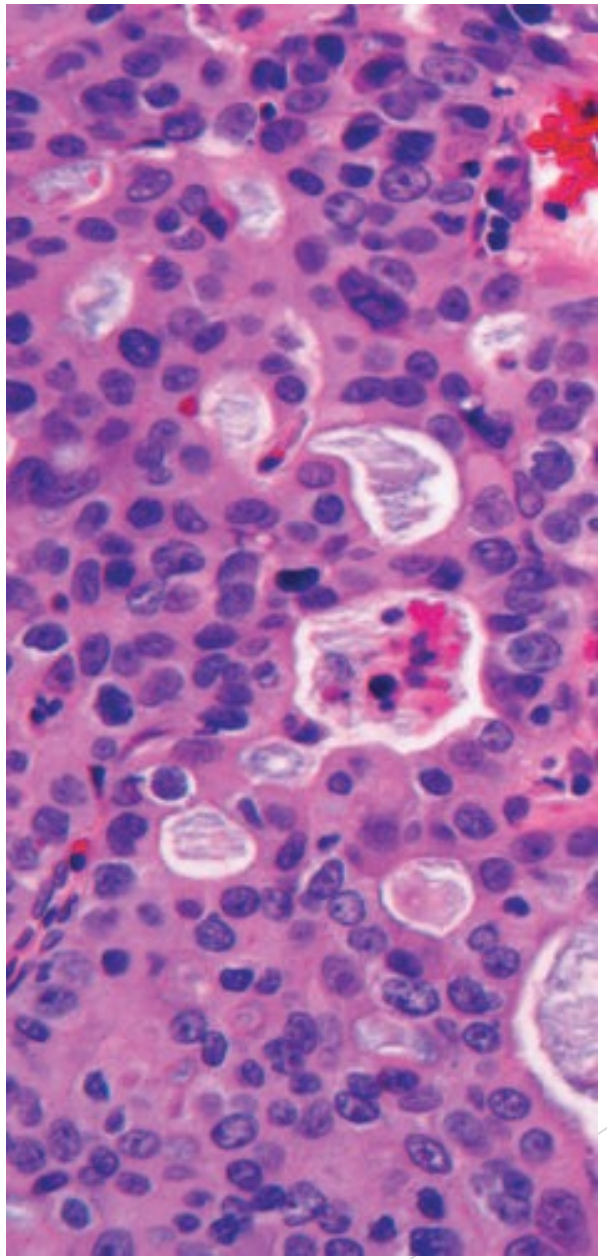
Pathogenesis

- 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.



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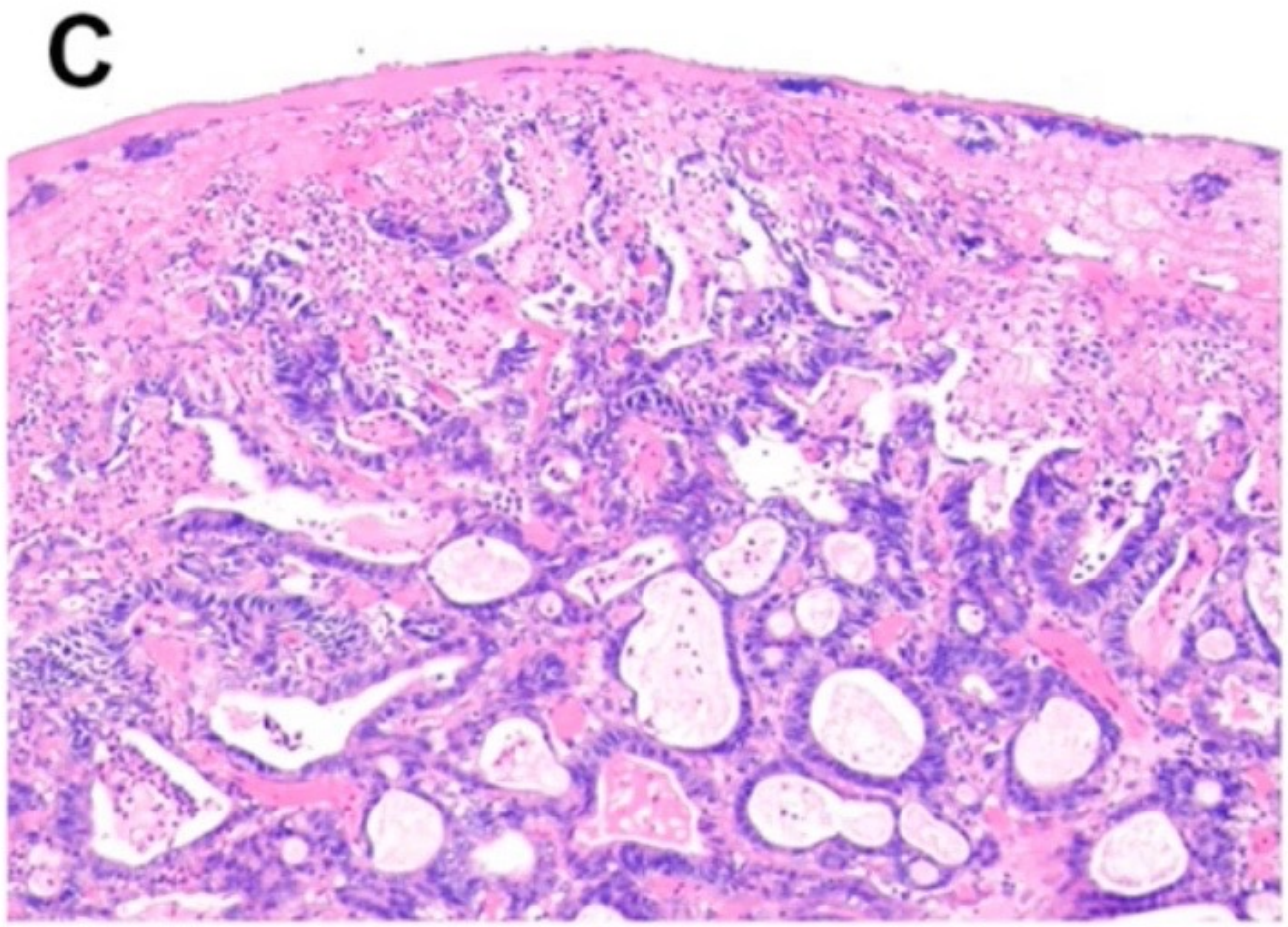
adenocarcinoma



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).

Mid esophagus

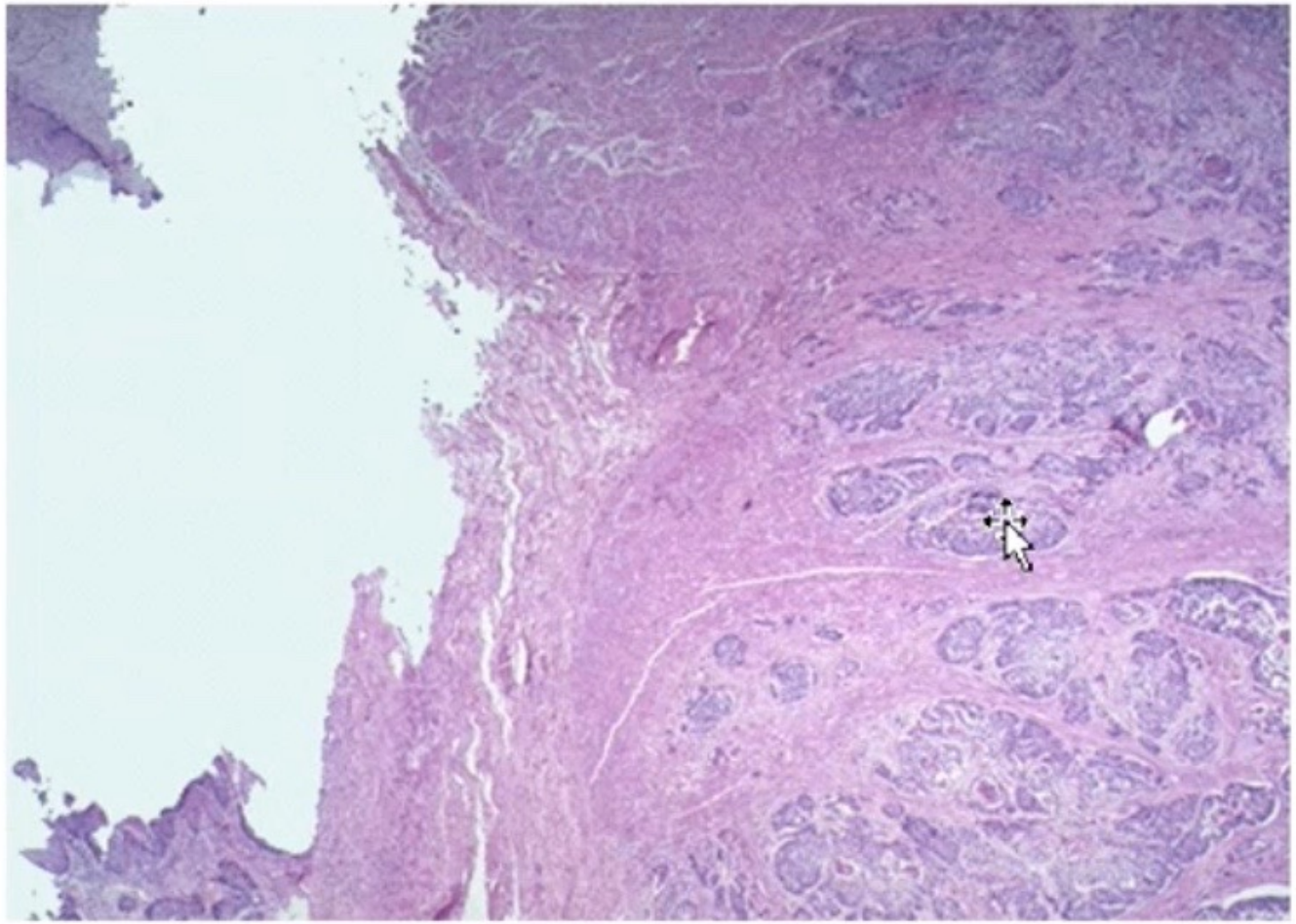
Microscopy:

- 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%

Invasive SCC



SCC

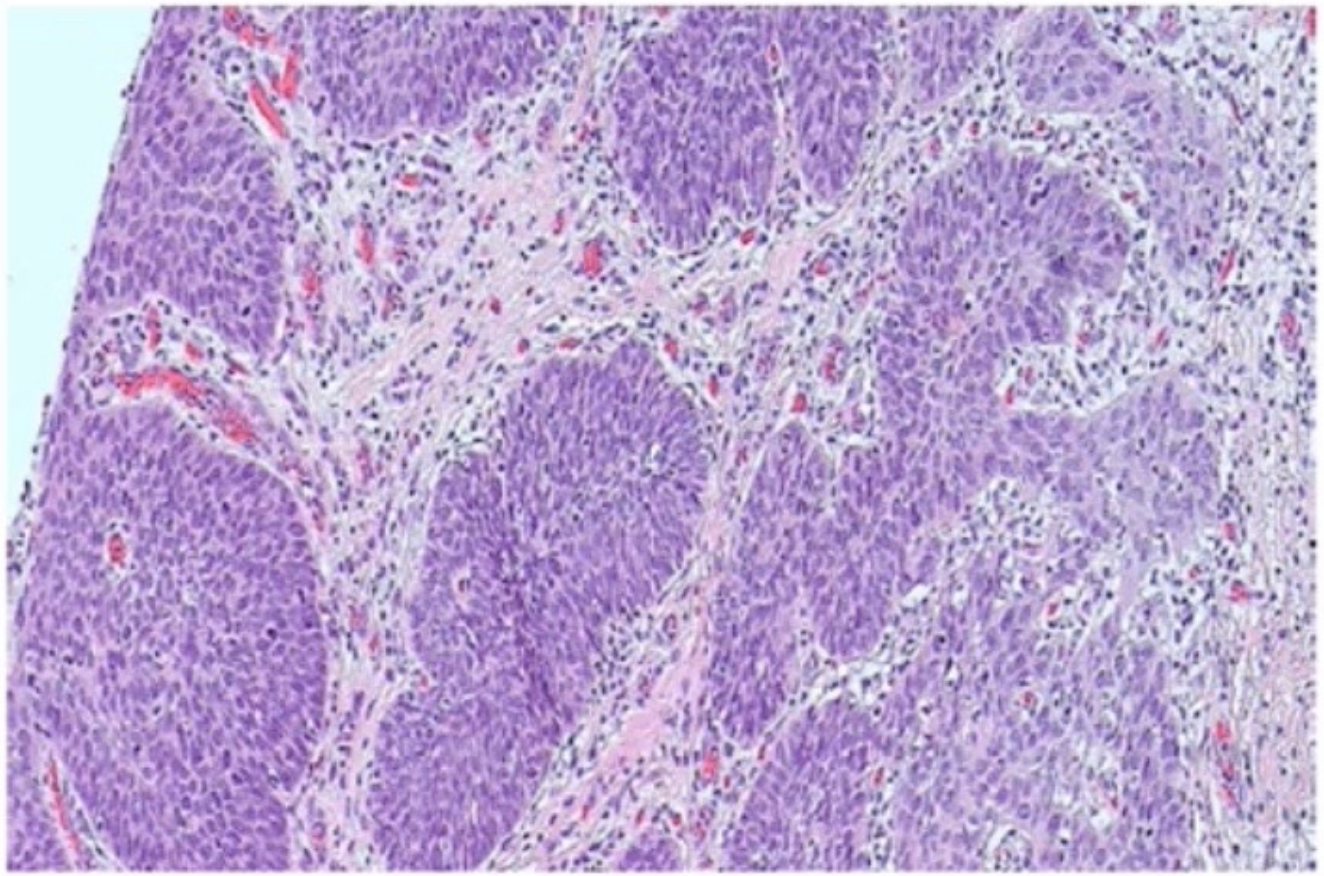
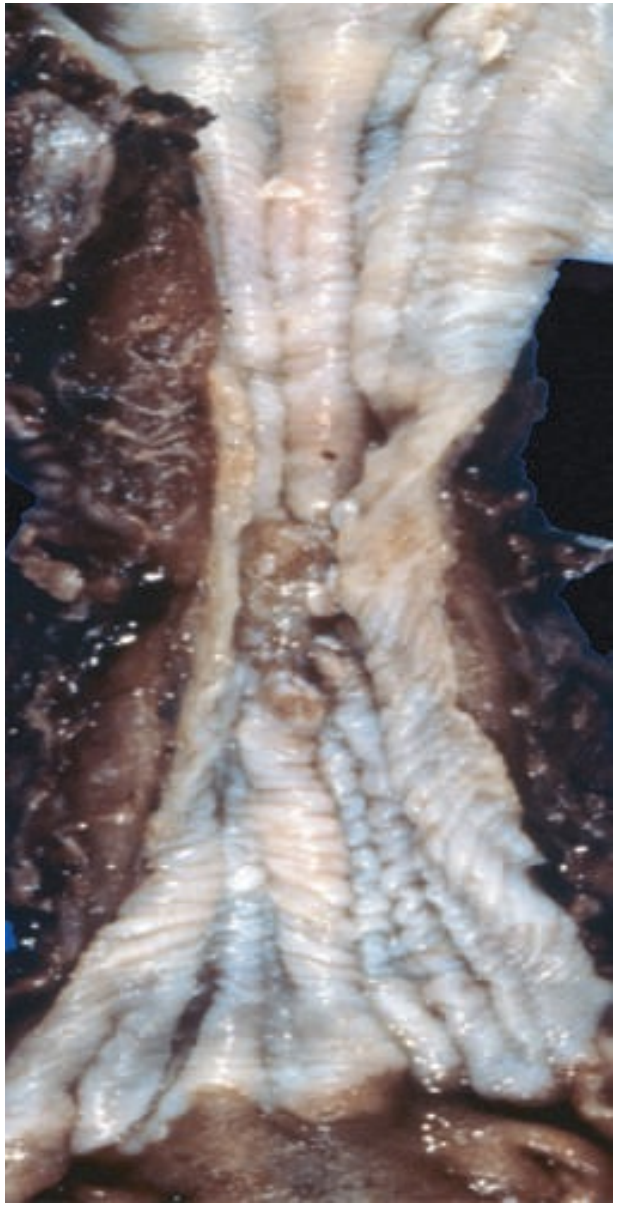
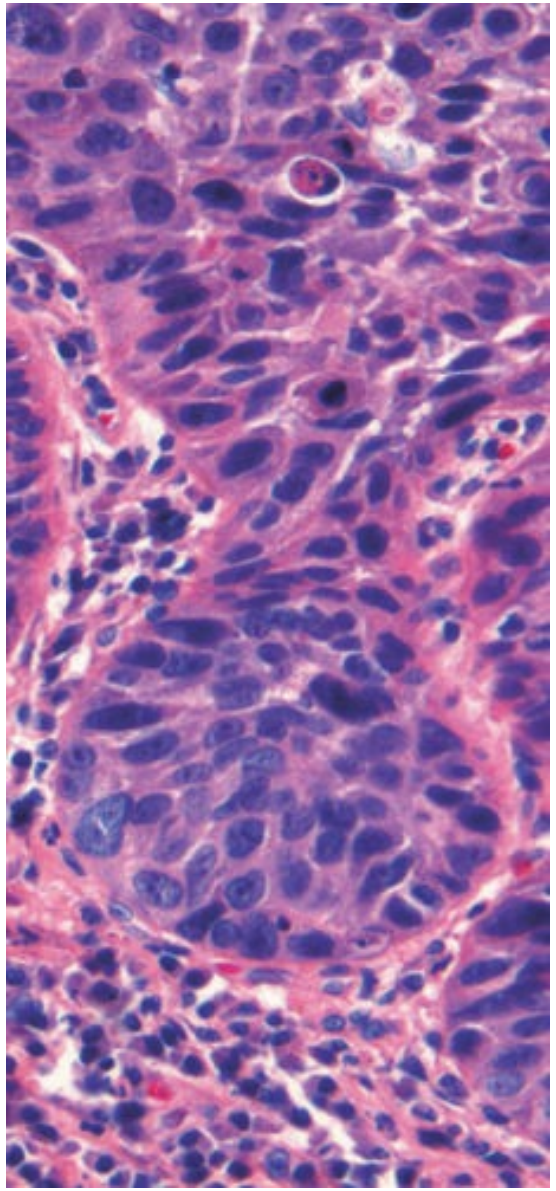


Figure 4: Squamous cell carcinoma of the esophagus with focal invasion into the muscularis mucosa and associated desmoplastic response.





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