

Diseases of the esophagus- 2

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Diseases that affect the esophagus

- ▶ 1. Obstruction: mechanical or functional.
- ▶ 2. Vascular diseases: varices.
- ▶ 3. Inflammation: esophagitis.
- ▶ 4. Tumors.

Reflux Esophagitis

Gastroesophageal reflux disease, GERD

- ▶ Reflux of gastric contents into the lower esophagus
- ▶ Most frequent cause of esophagitis
- ▶ Most common complaint by patients

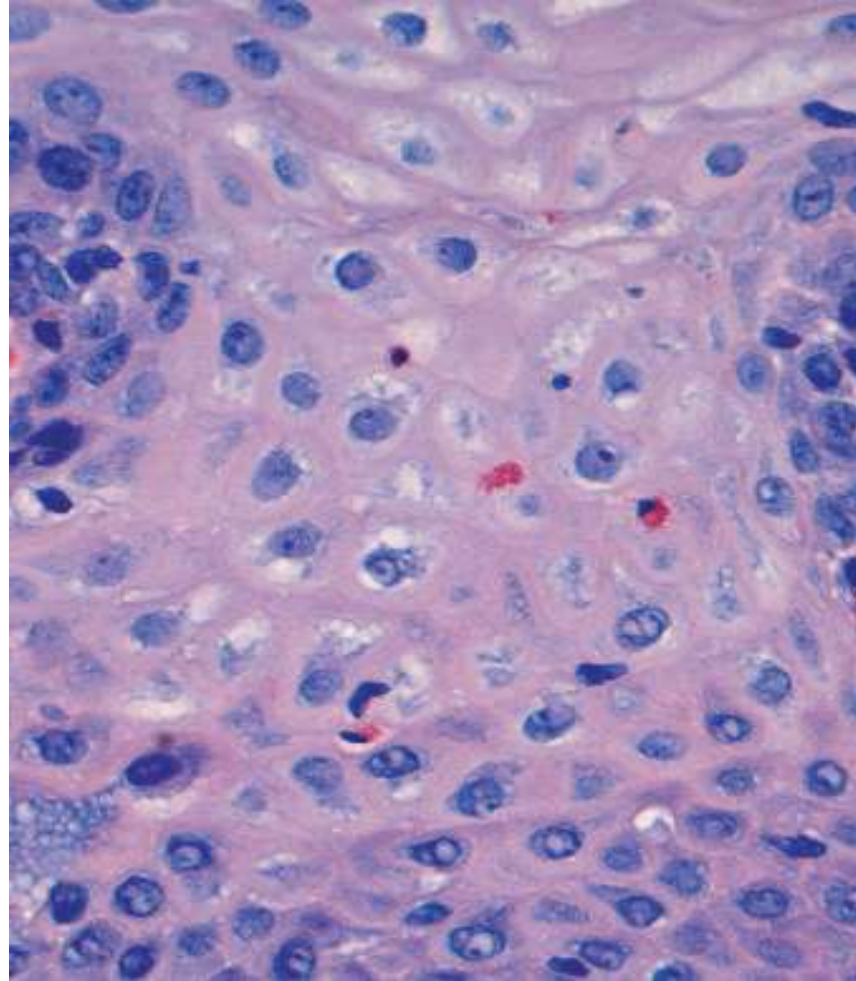
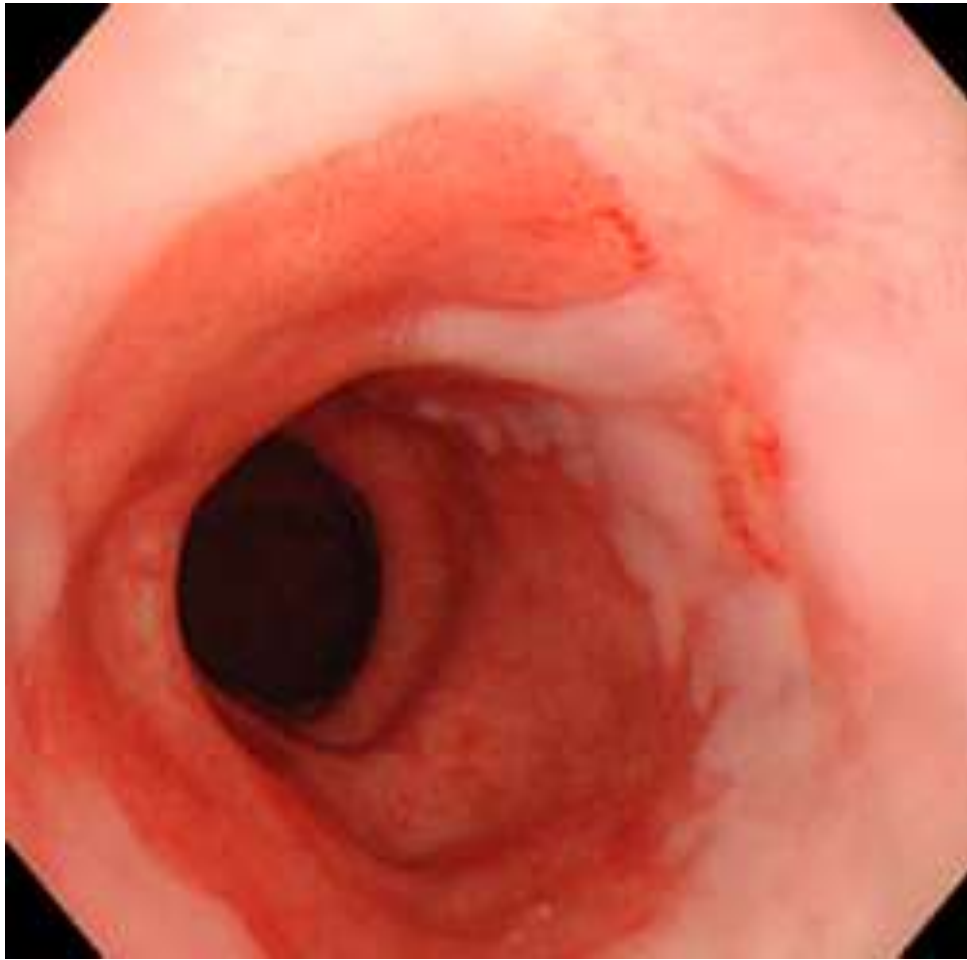
- ▶ Squamous epithelium is sensitive to acids
- ▶ Protective forces: mucin and bicarbonate from submucosal glands, high LES tone

Pathogenesis

- ▶ **Decreased lower esophageal sphincter tone**
(alcohol, tobacco, hiatal hernia, CNS depressants)
- ▶ **Increase abdominal pressure**
(obesity,, pregnancy, delayed gastric emptying, and increased gastric volume)
- ▶ **Idiopathic!!**

MORPHOLOGY

- ▶ **Macroscopy (endoscopy)**
- ▶ Depends on severity (Unremarkable, Simple erythema)
- ▶ **Microscopic:**
- ▶ Eosinophils infiltration (early)
- ▶ Neutrophils later (more severe).
- ▶ Basal zone hyperplasia
- ▶ Elongation of lamina propria papillae



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

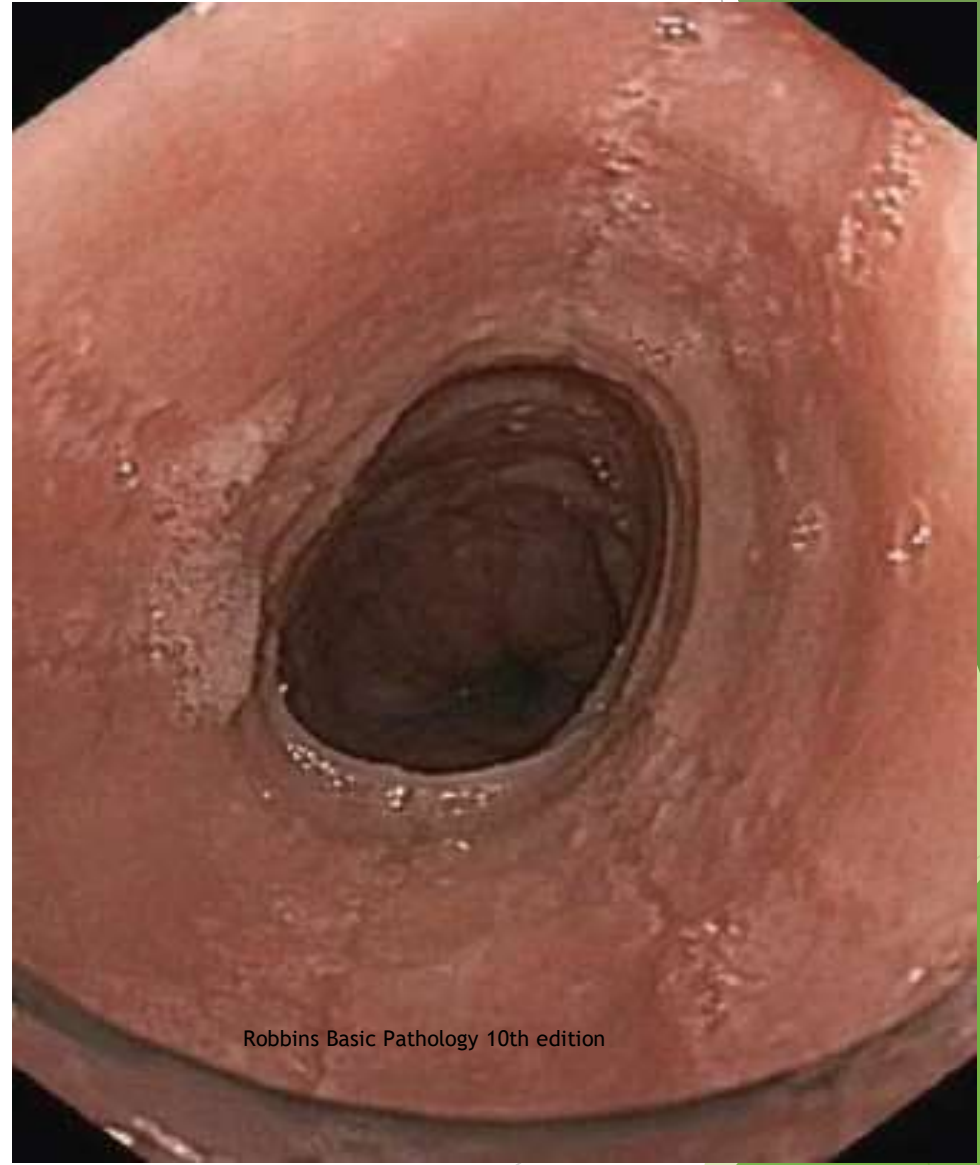
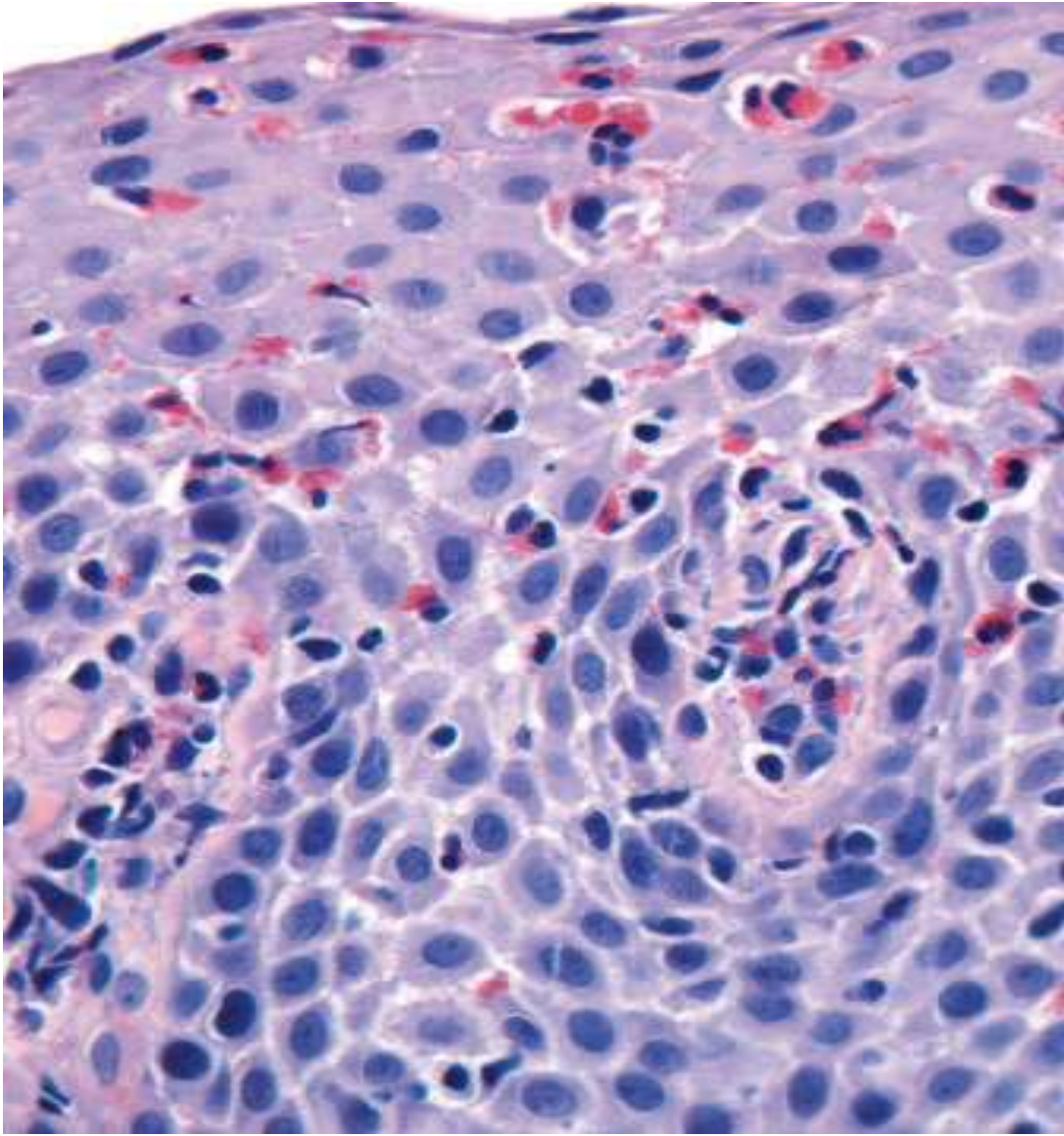
- ▶ Tx: proton pump inhibitors

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
- ▶ **Morphology:**
- ▶ Rings in the upper and mid esophagus.
- ▶ Numerous eosinophils in epithelium
- ▶ Far from the GEJ.



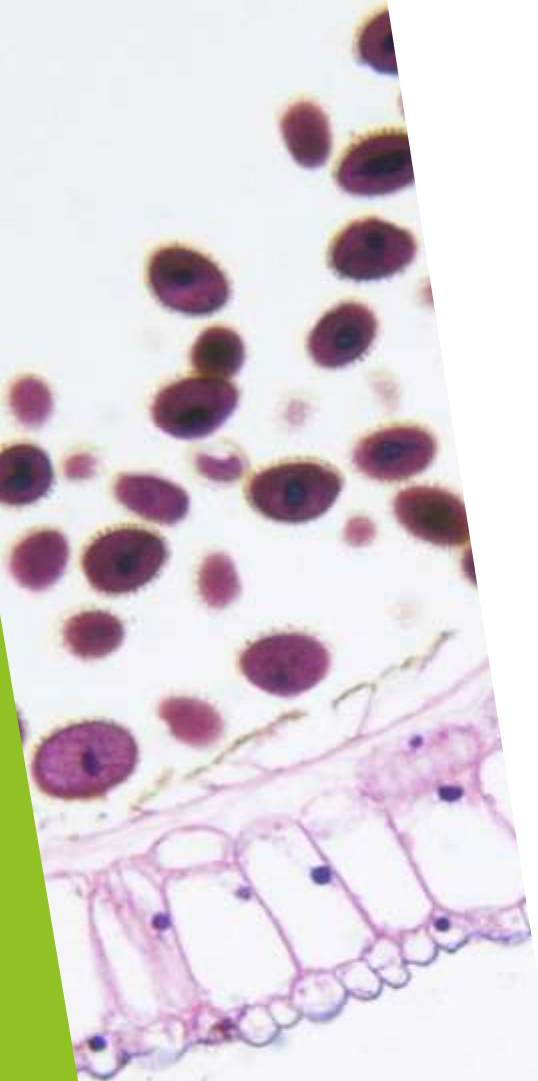
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Management:

- ▶ Most patients are atopic (atopic dermatitis, allergic rhinitis, asthma) or modest peripheral eosinophilia.
- ▶ Refractory to PPIs.
- ▶ **Treatment:**
- ▶ Dietary restrictions(cow milk and soy products)
- ▶ Topical or systemic corticosteroids.

5-Barrett Esophagus

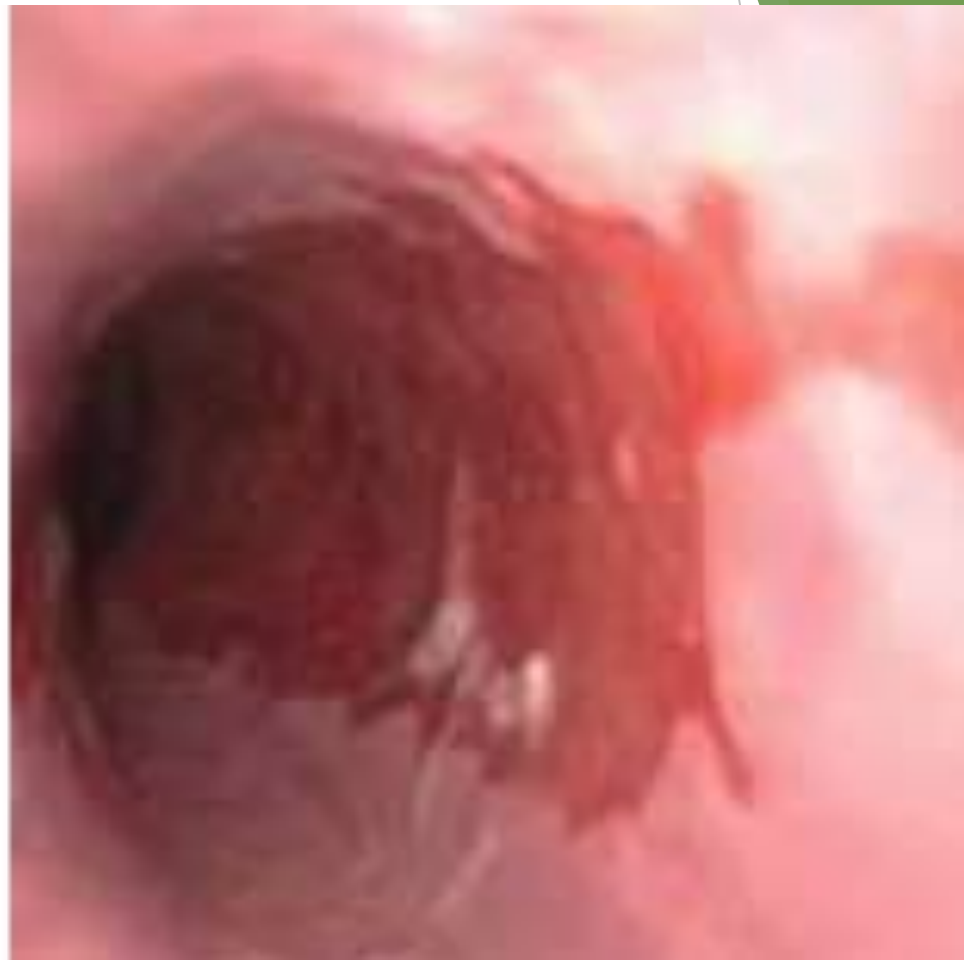
- ▶ Complication of chronic GERD
- ▶ Intestinal metaplasia.
- ▶ 10% of individuals with symptomatic GERD
- ▶ Males>>females, 40-60 yrs
- ▶ **Direct precursor of esophageal adenocarcinoma**
- ▶ **0.2-1% /year develop dysplasia (precursor of adenocarcinoma)**



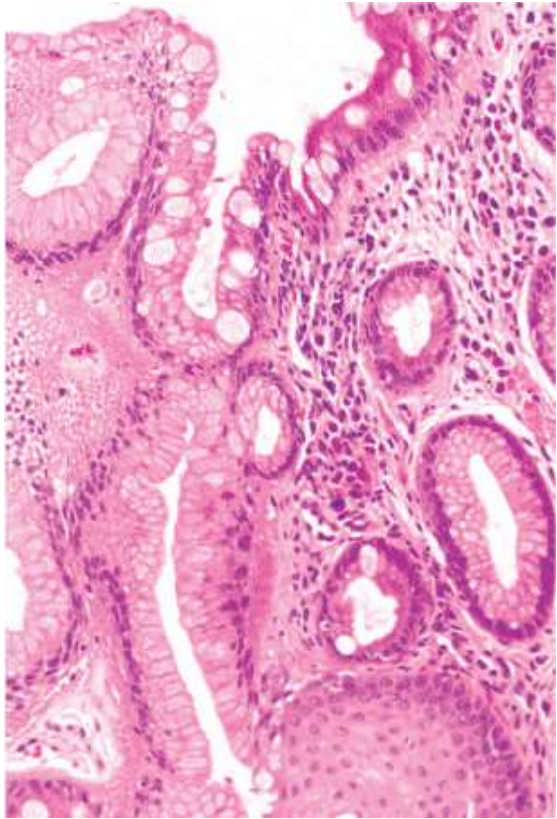
MORPHOLOGY

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

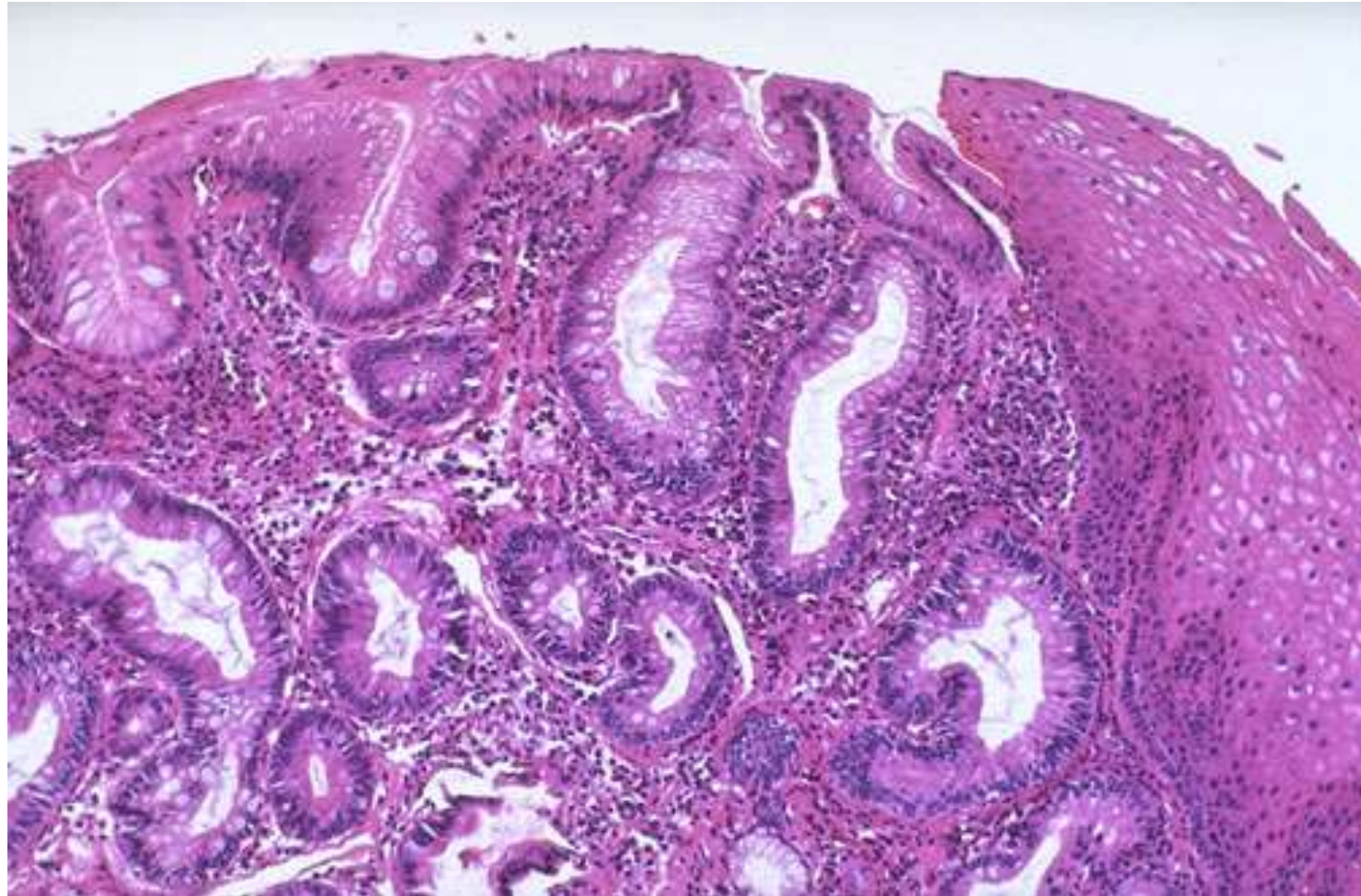
- ▶ **Histology:**
- ▶ **Intestinal metaplasia (defined by Presence of goblet cells)**
- ▶ +-Dysplasia : low-grade or high-grade
- ▶ Intramucosal carcinoma: invasion into the lamina propria.

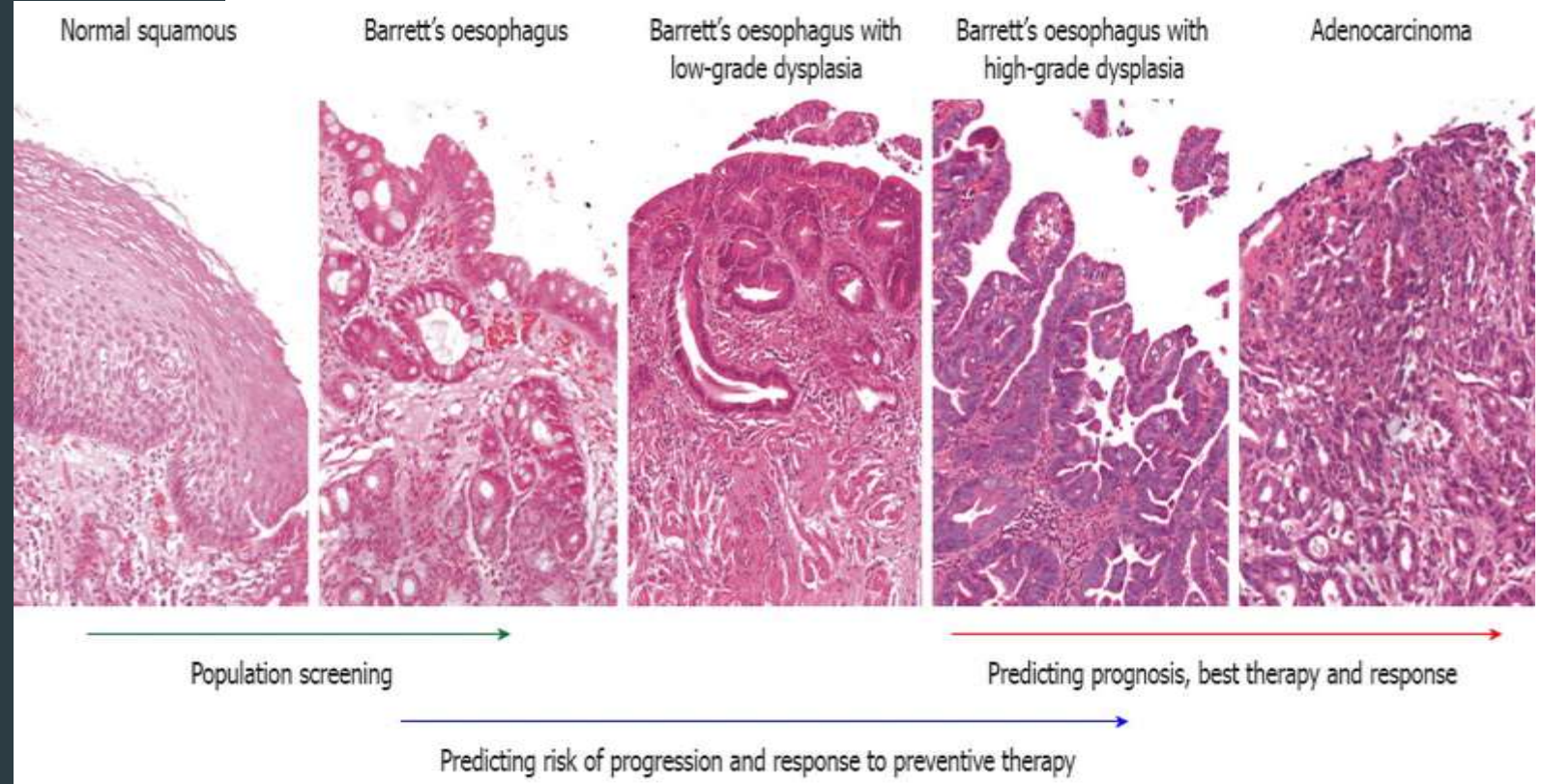


► [Gastroenterology Consultants of San Antonio](#)



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Management of Barrett

Periodic surveillance endoscopy with biopsy to screen for dysplasia.



High grade dysplasia & intramucosal carcinoma needs interventions.

6-ESOPHAGEAL TUMORS

Squamous cell carcinoma (most common worldwide)

Adenocarcinoma (on the rise, 1/2 of cases in developed countries)

Adenocarcinoma

- ▶ Background of Barrett esophagus and long-standing GERD.
- ▶ Risk is greater if: documented dysplasia, 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.

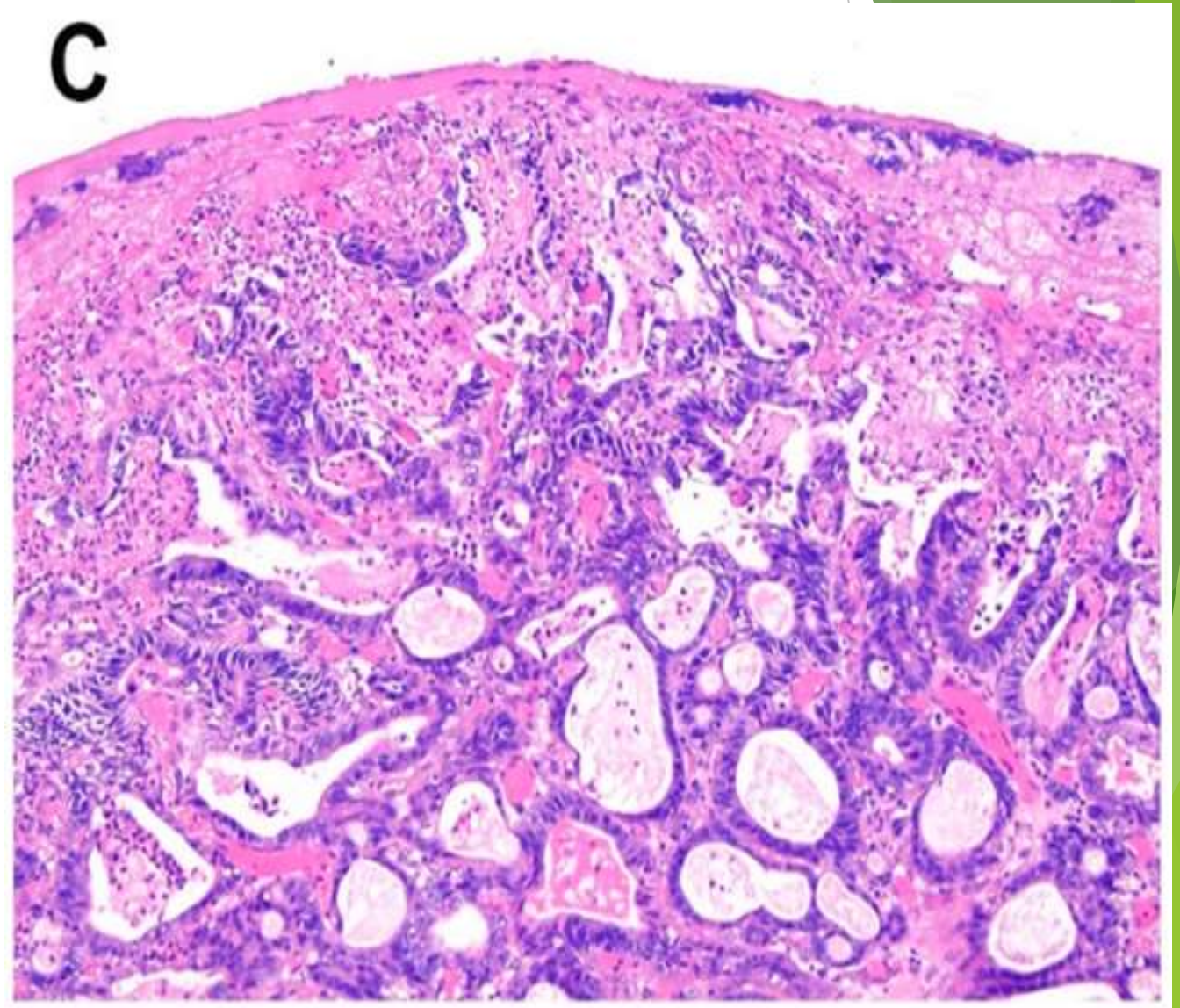
MORPHOLOGY

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

- ▶ Microscopy:
- ▶ Forms glands and mucin.



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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)
- ▶ More in rural, low resource countries.
- ▶ **Risk factors:**
- ▶ Alcohol
- ▶ Tobacco use
- ▶ Poverty
- ▶ Caustic injury
- ▶ Achalasia .
- ▶ Plummer-Vinson syndrome (iron deff.anemia, dysphagia,webs)
- ▶ Frequent consumption of very hot beverages
- ▶ Previous radiation Tx .

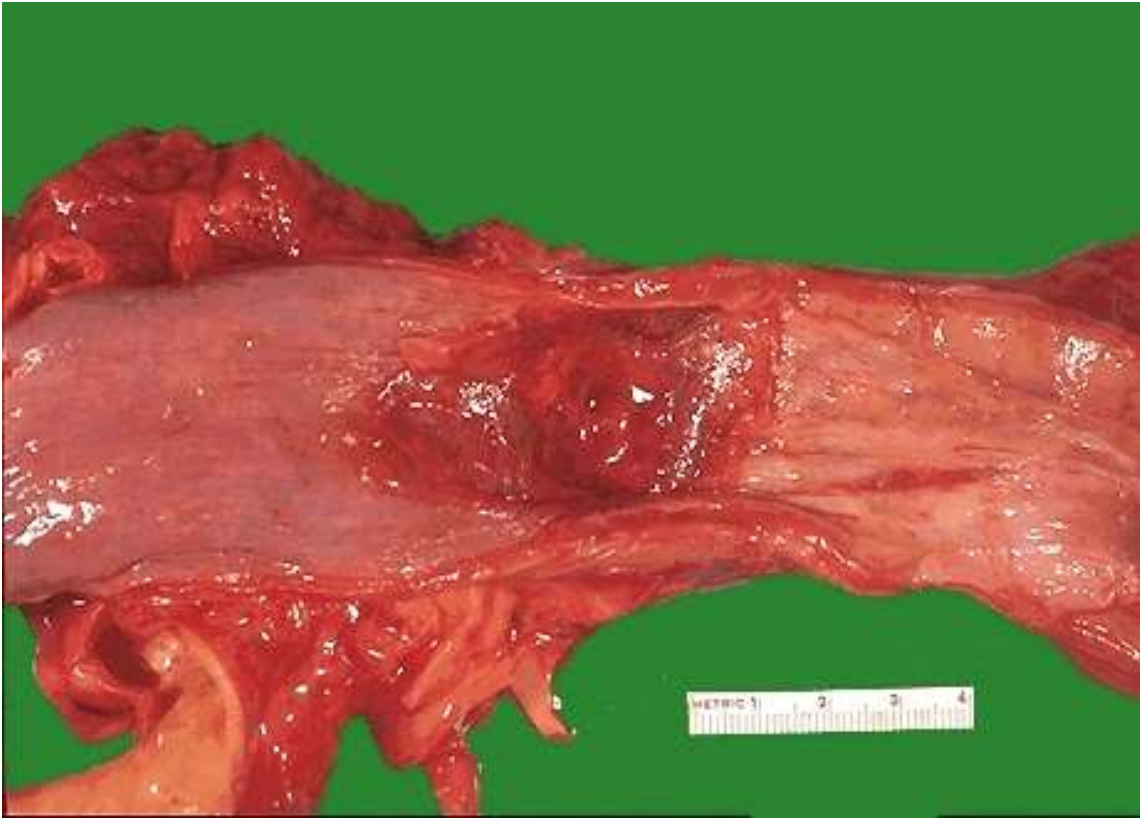
Pathogenesis

- ▶ In western : alcohol and tobacco use.
- ▶ Other areas: nutritional deficiency, 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).

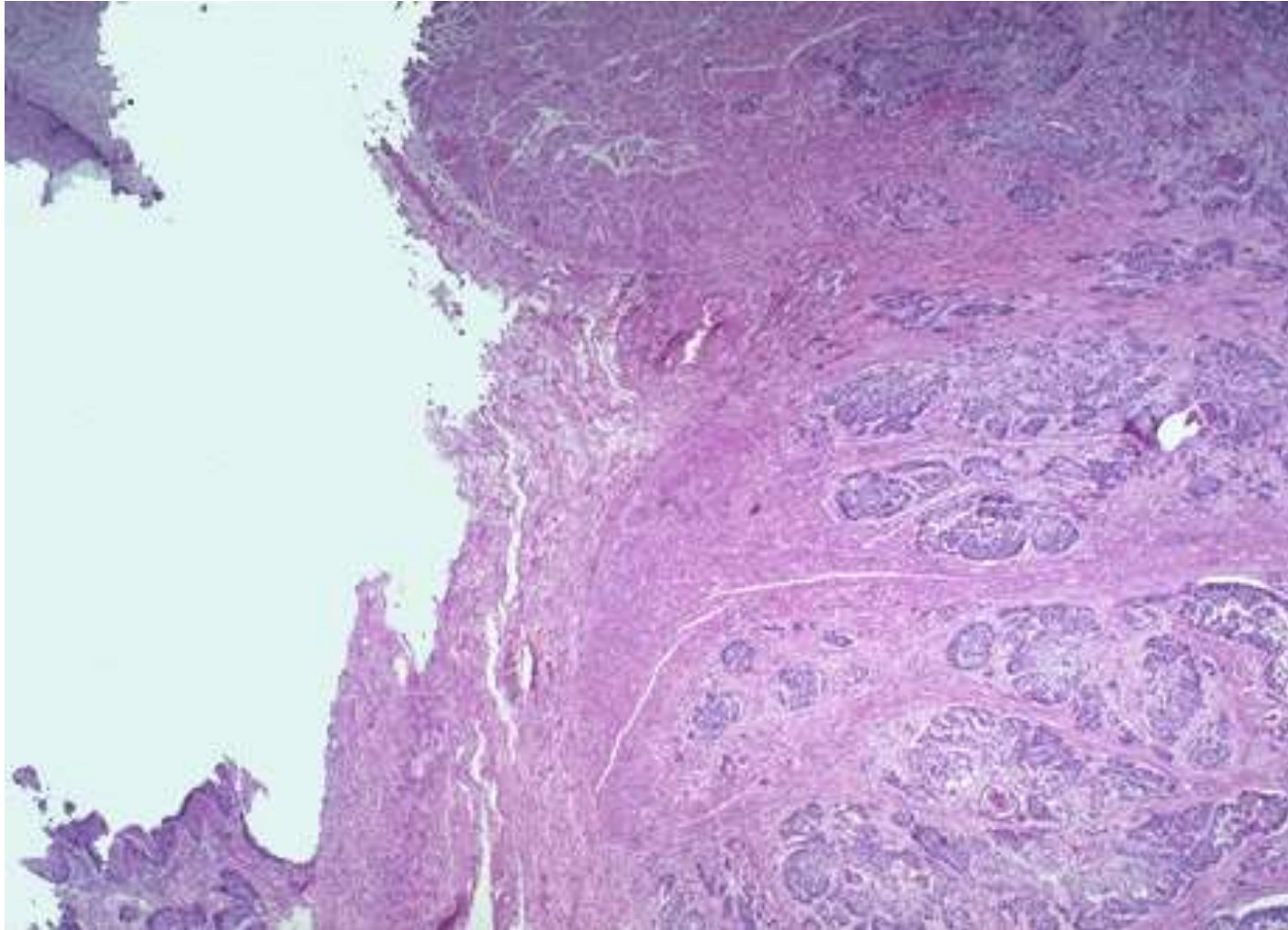
Mid esophagus



Microscopy:

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

Invasive SCC



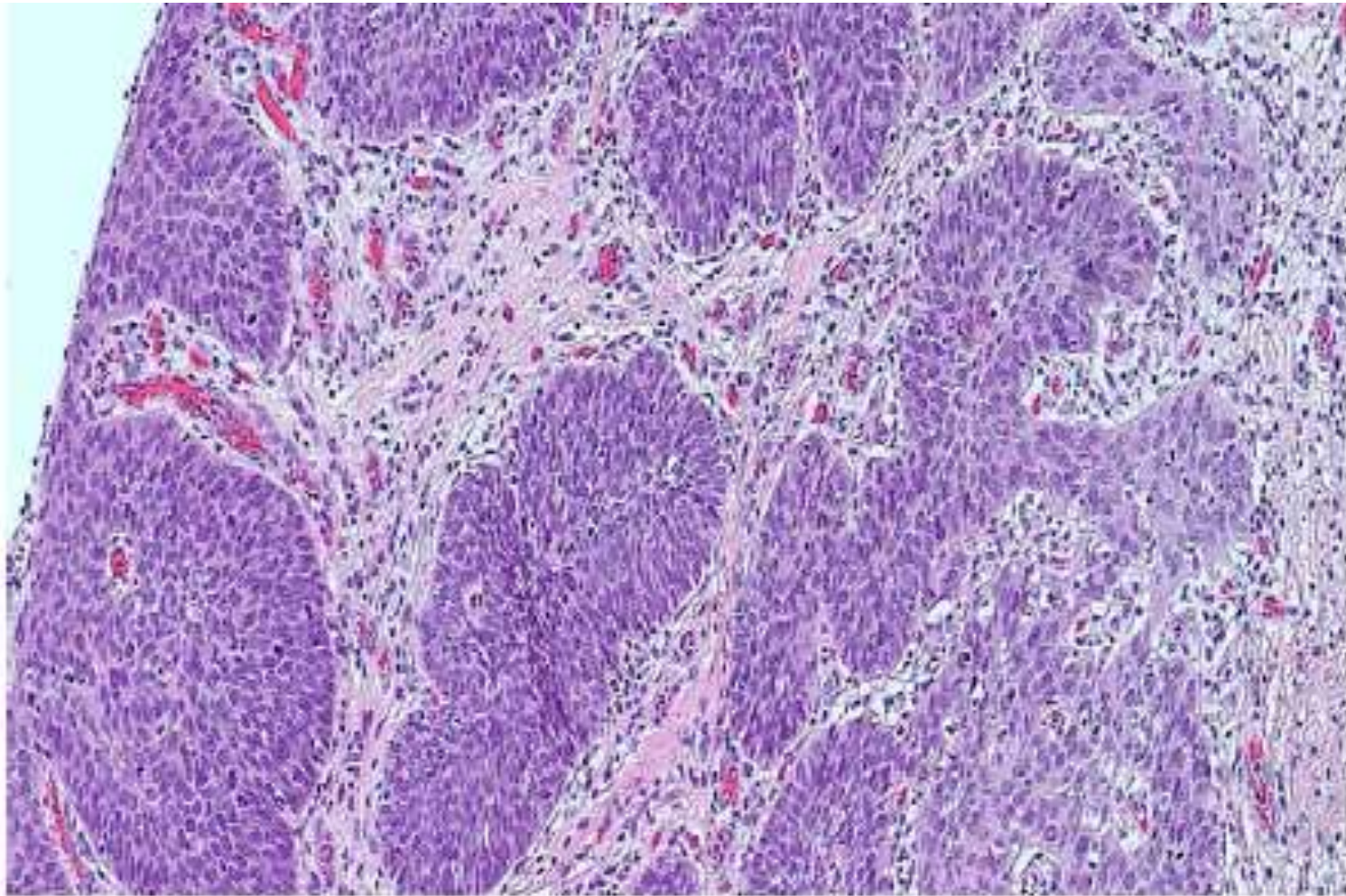


Figure 4: Squamous cell carcinoma of the esophagus with focal invasion into the muscularis mucosa and associated desmoplastic response.



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 10%