PATHOLOGY & LAB MEDICINE
2016 ASCP Annual Meeting
Today
Tomorrow
Beyond

CS05 NEW DEVELOPMENTS IN GASTROINTESTINAL PATHOLOGY-GIPS FUNNY FORMS OF ESOPHAGITIS: BEYOND GERD AND EOSINOPHILIC ESOPHAGITIS

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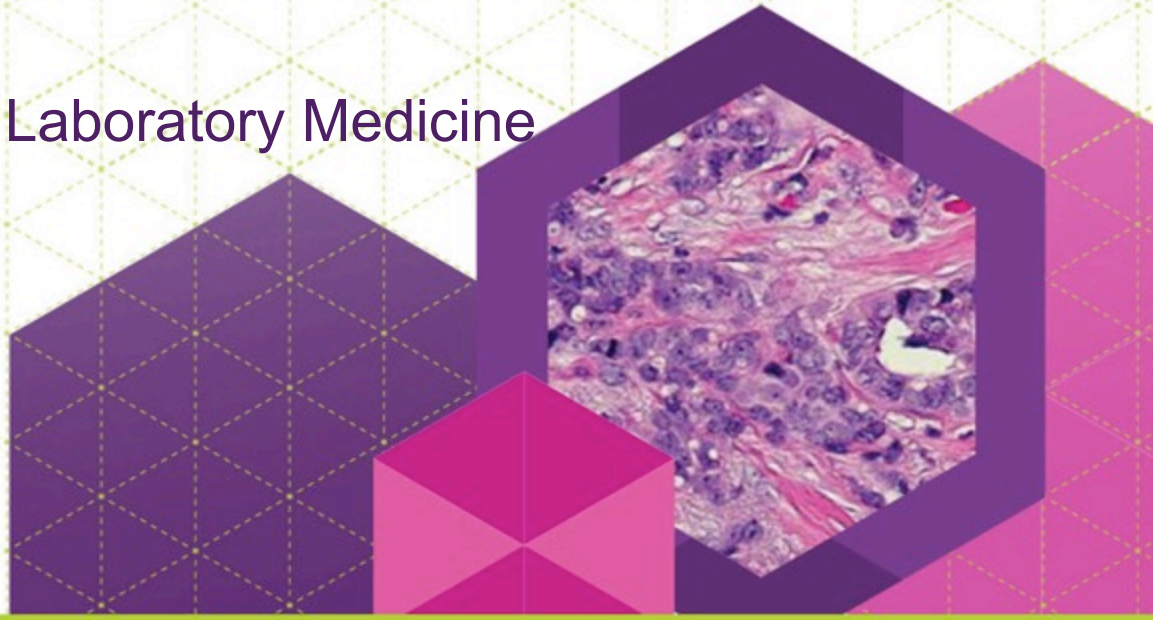
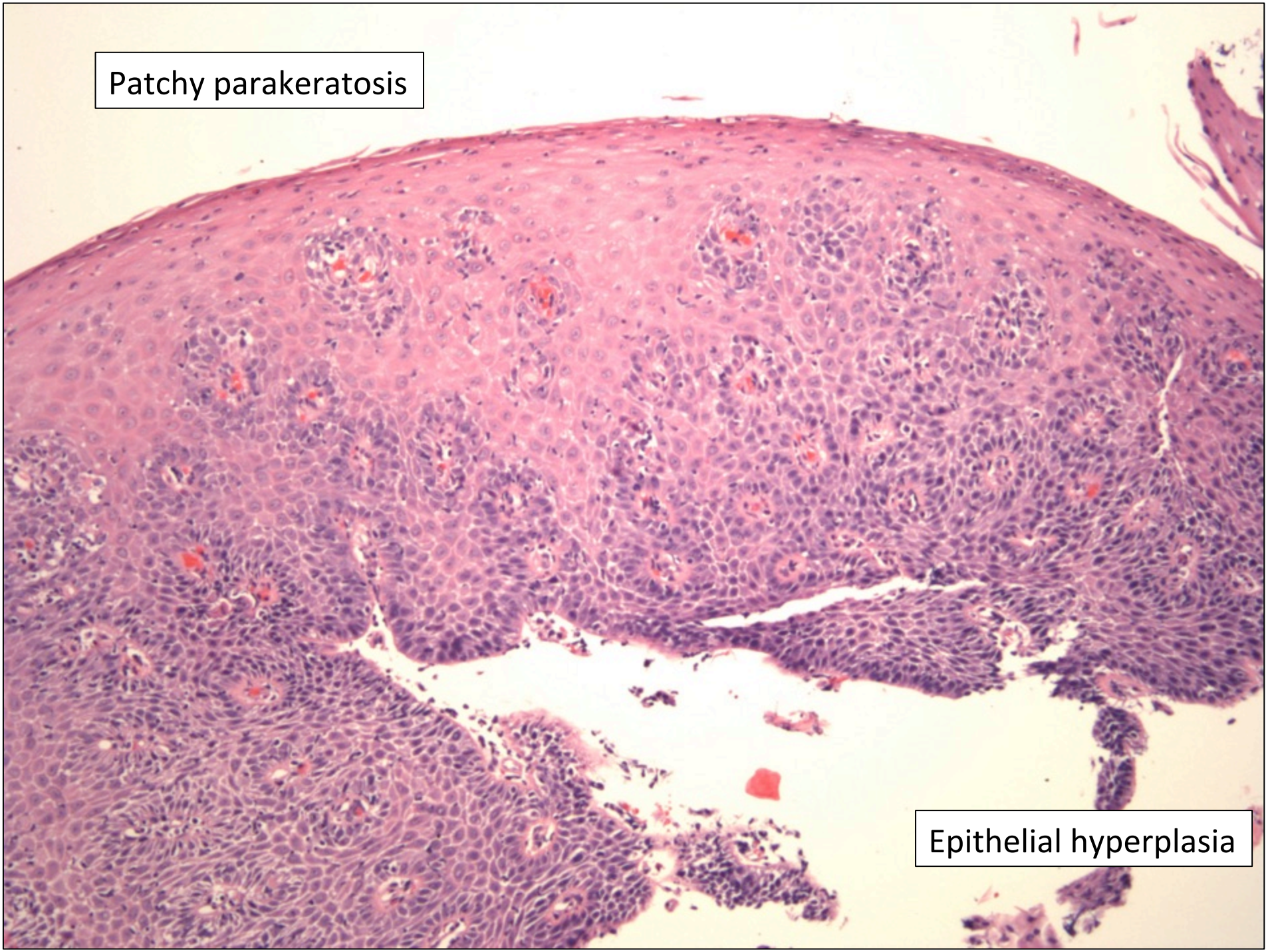
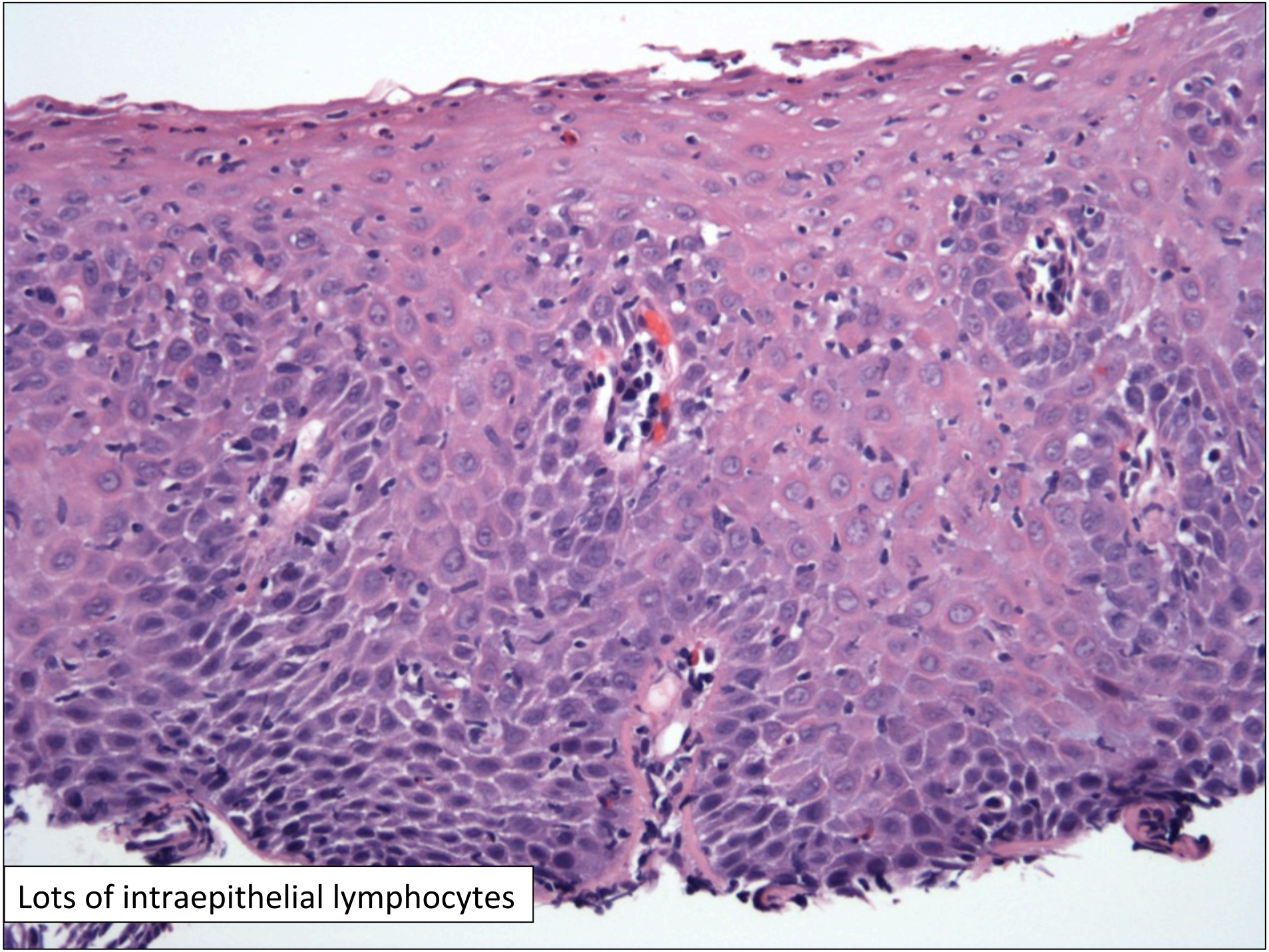


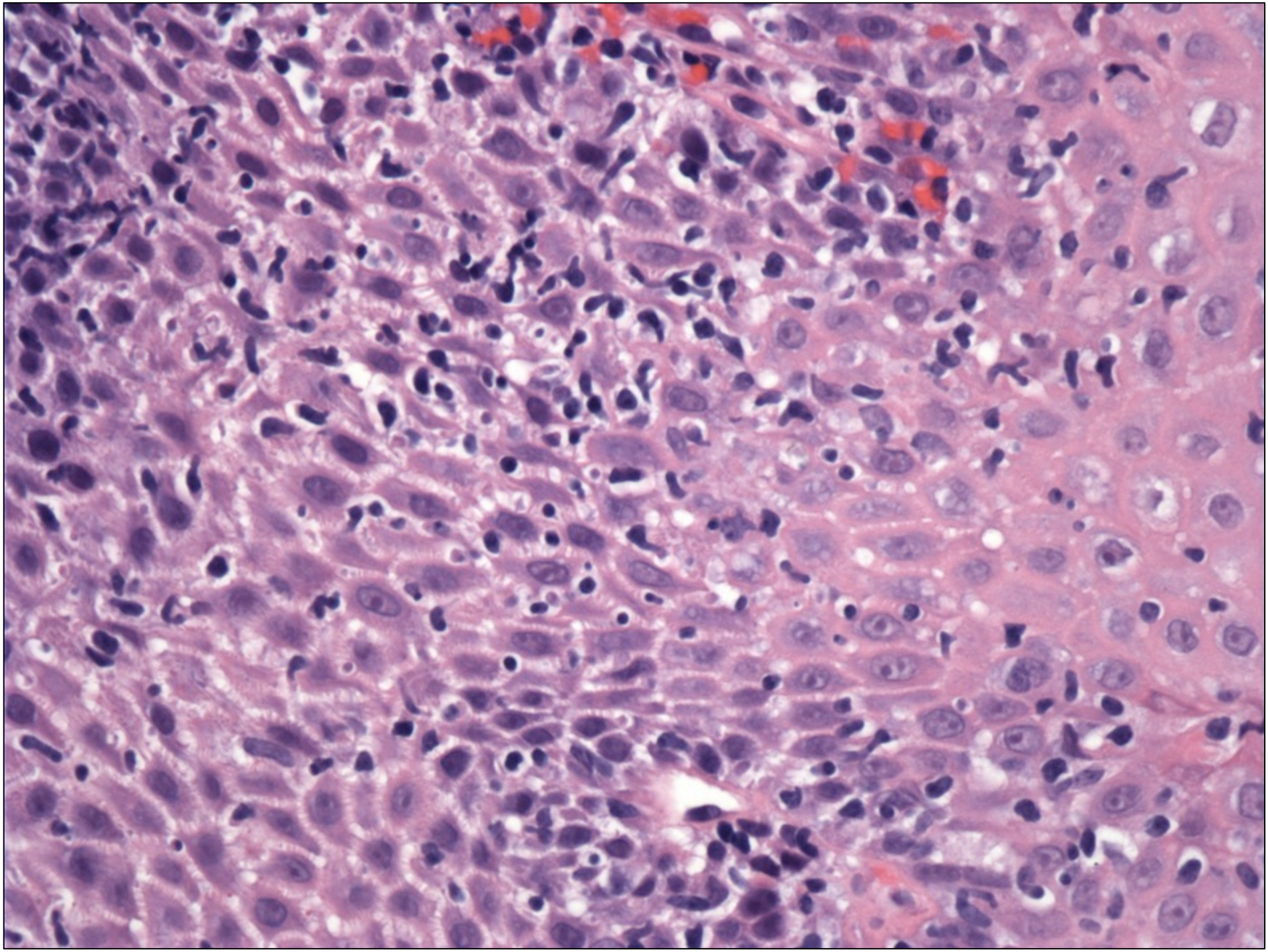
IN THE PAST 12 MONTHS, I HAVE NOT HAD A SIGNIFICANT FINANCIAL INTEREST OR OTHER RELATIONSHIP WITH THE MANUFACTURER(S) OF THE PRODUCT(S) OR PROVIDER(S) OF THE SERVICE(S) THAT WILL BE DISCUSSED IN MY PRESENTATION.

CASE 1

- 30-year old woman with dysphagia
- History of psoriasis


Patchy parakeratosis
Epithelial hyperplasia


Lots of intraepithelial lymphocytes

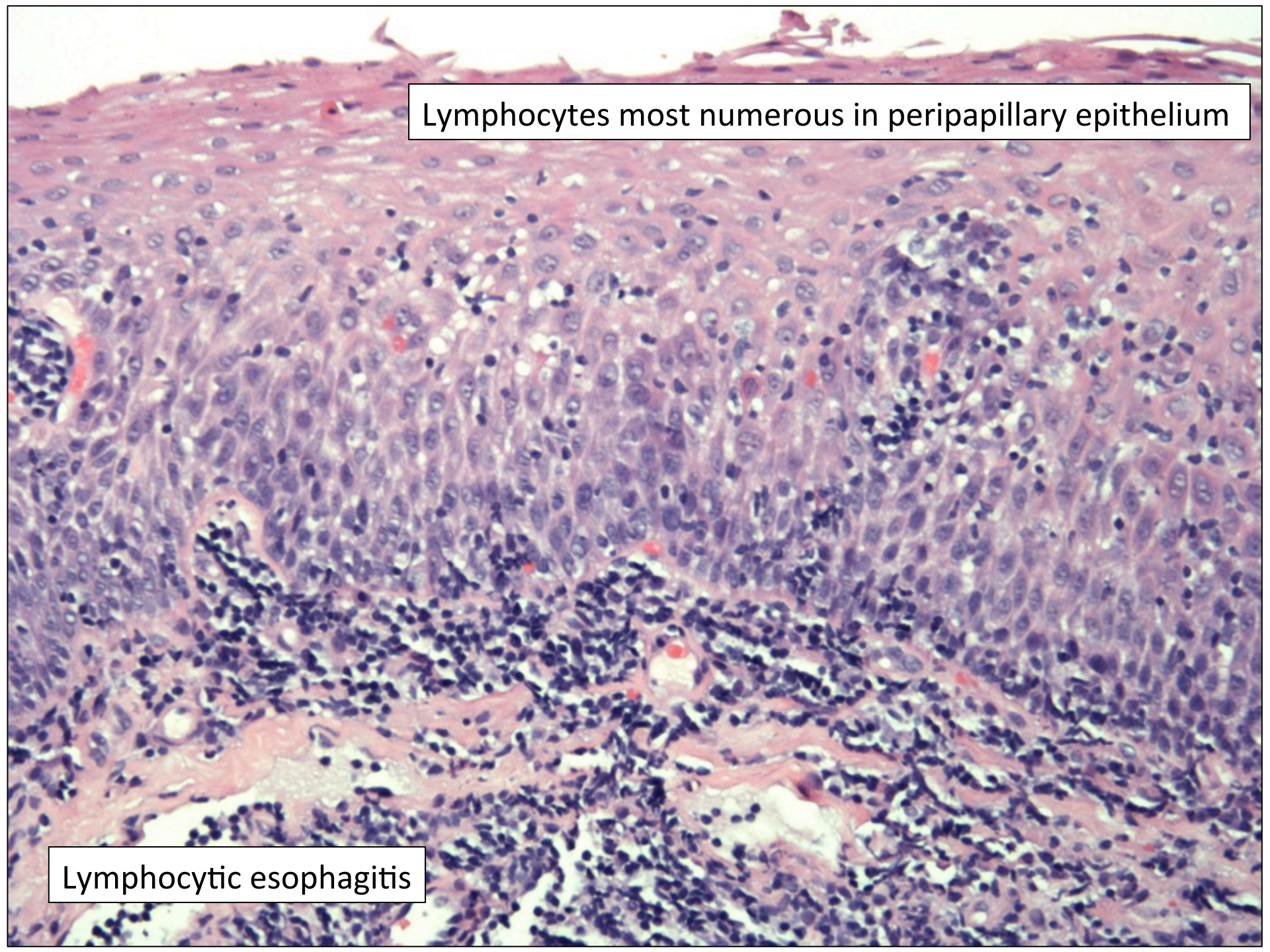


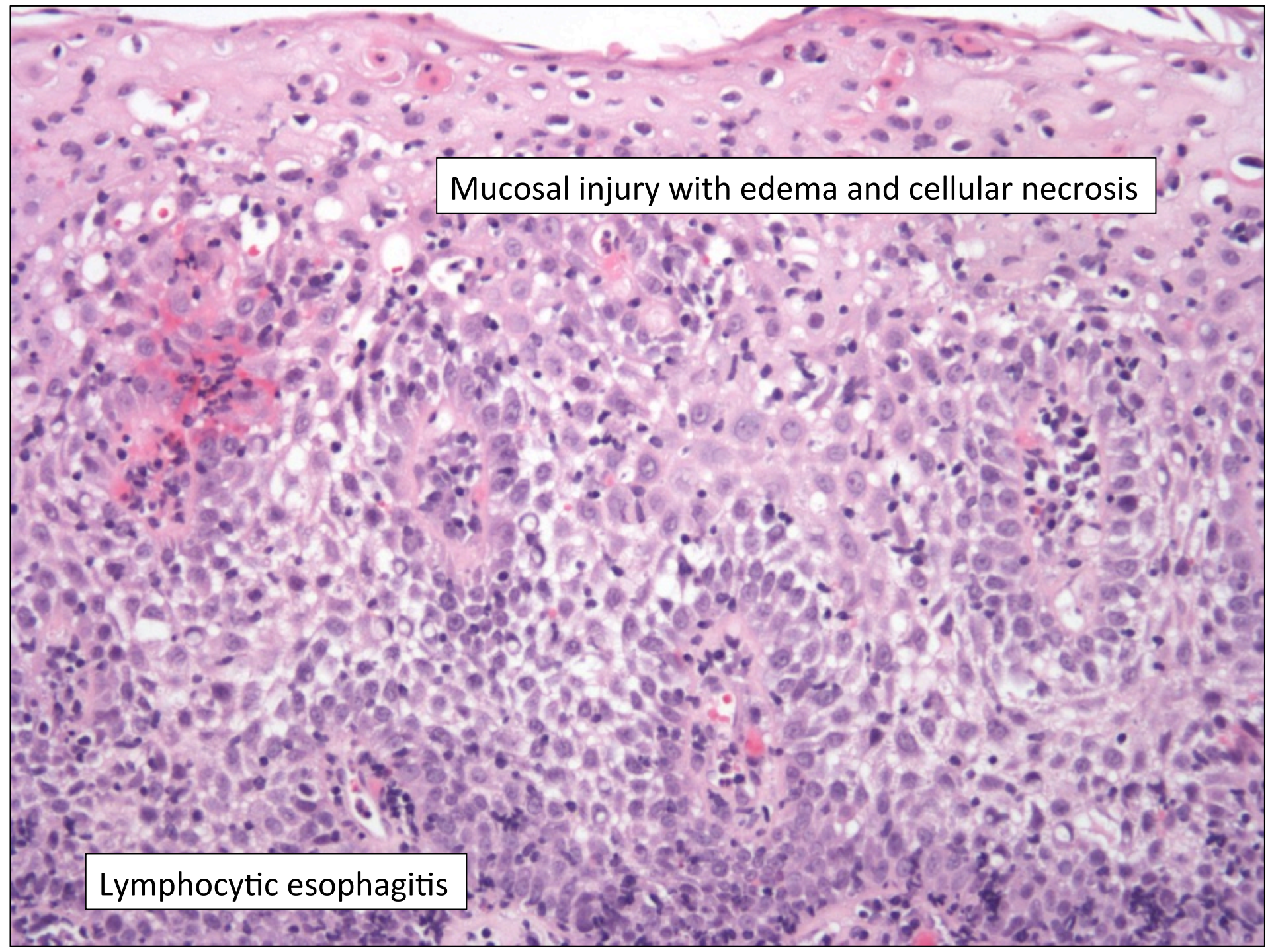
OUTCOME

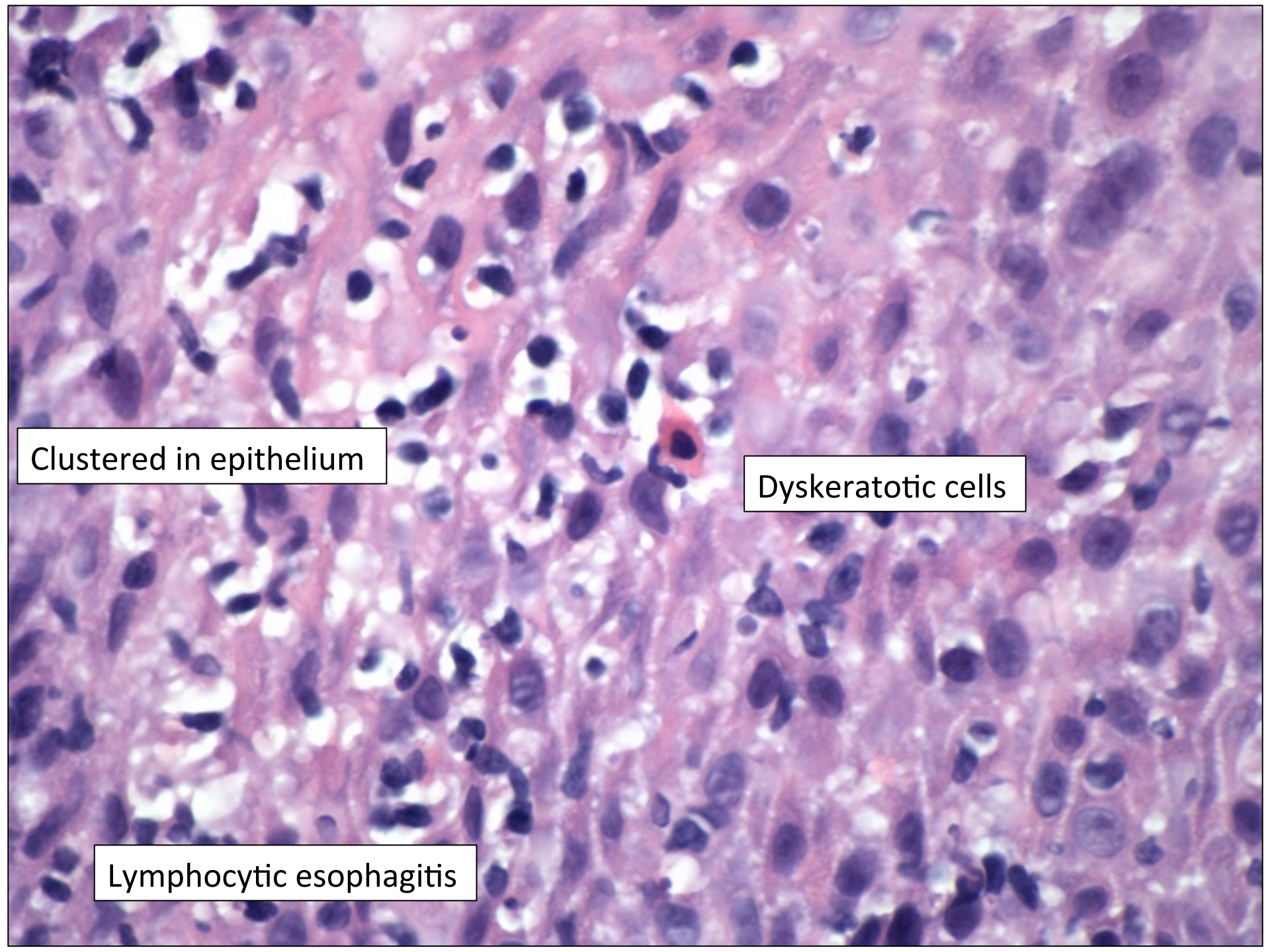
- Case shown to dermatopathology
- Psoriasis of the esophagus
- The esophagus is lined by squamous epithelium, but it isn't the skin
- Patterns of cutaneous inflammation generally don't mean the same thing in the esophagus

LYMPHOCYTIC ESOPHAGITIS

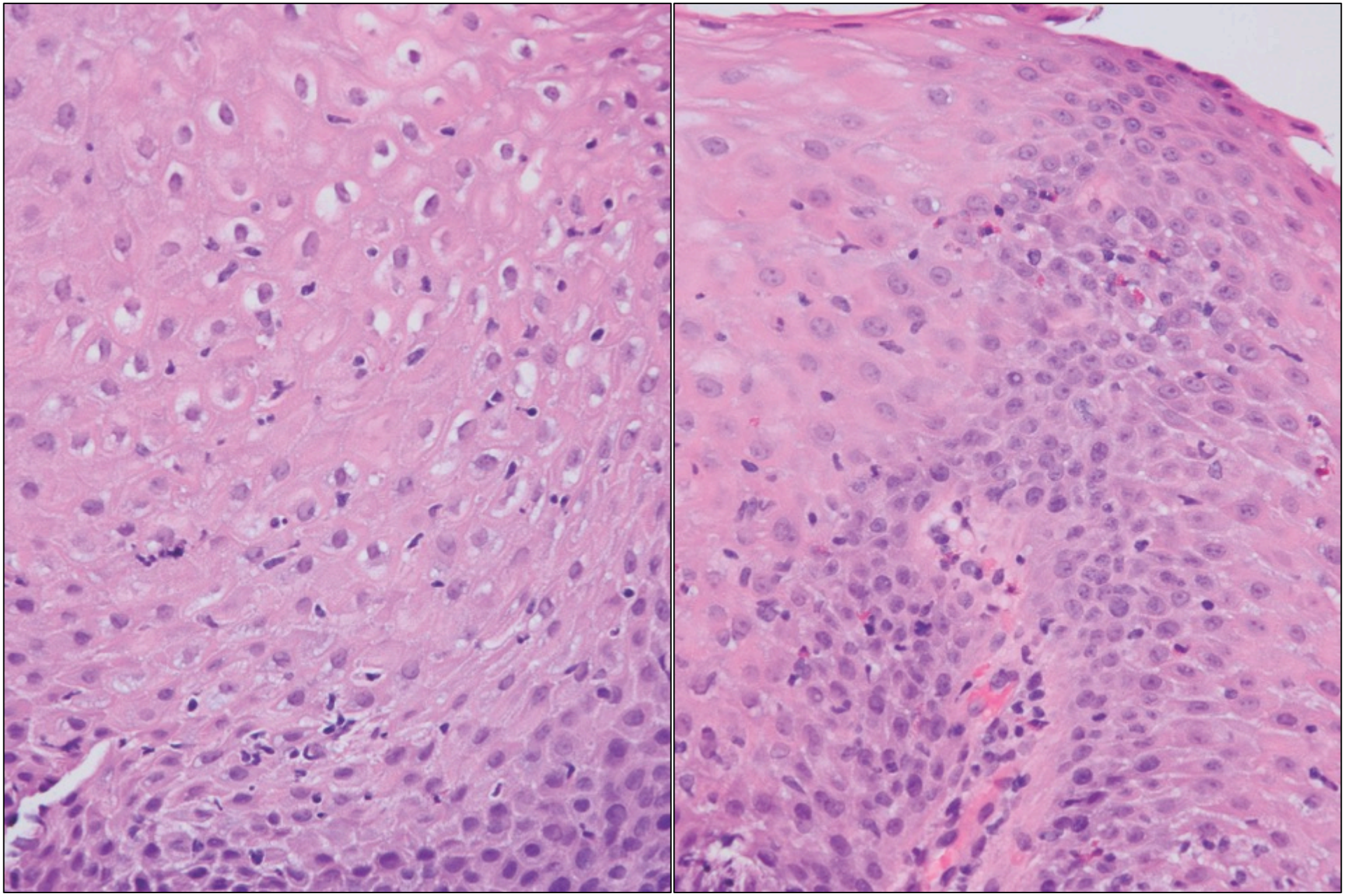
- Increasingly recognized as more patients undergo biopsy of proximal esophagus for eosinophilic esophagitis
  - 80% of cases identified in past 5 years
- Females affected more than males, older adults
- Manifestation of Crohn disease in children
- May be associated with other immune-mediated disorders
- Dysphagia, odynophagia, dysmotility
- Endoscopy
  - 30% normal
  - Plaques, rings, furrows simulating eosinophilic esophagitis
- Histology
  - 20-100 lymphocytes/high-power field
  - Granulocytes should be infrequent, or absent


Lymphocytes most numerous in peripapillary epithelium
Lymphocytic esophagitis


Mucosal injury with edema and cellular necrosis
Lymphocytic esophagitis

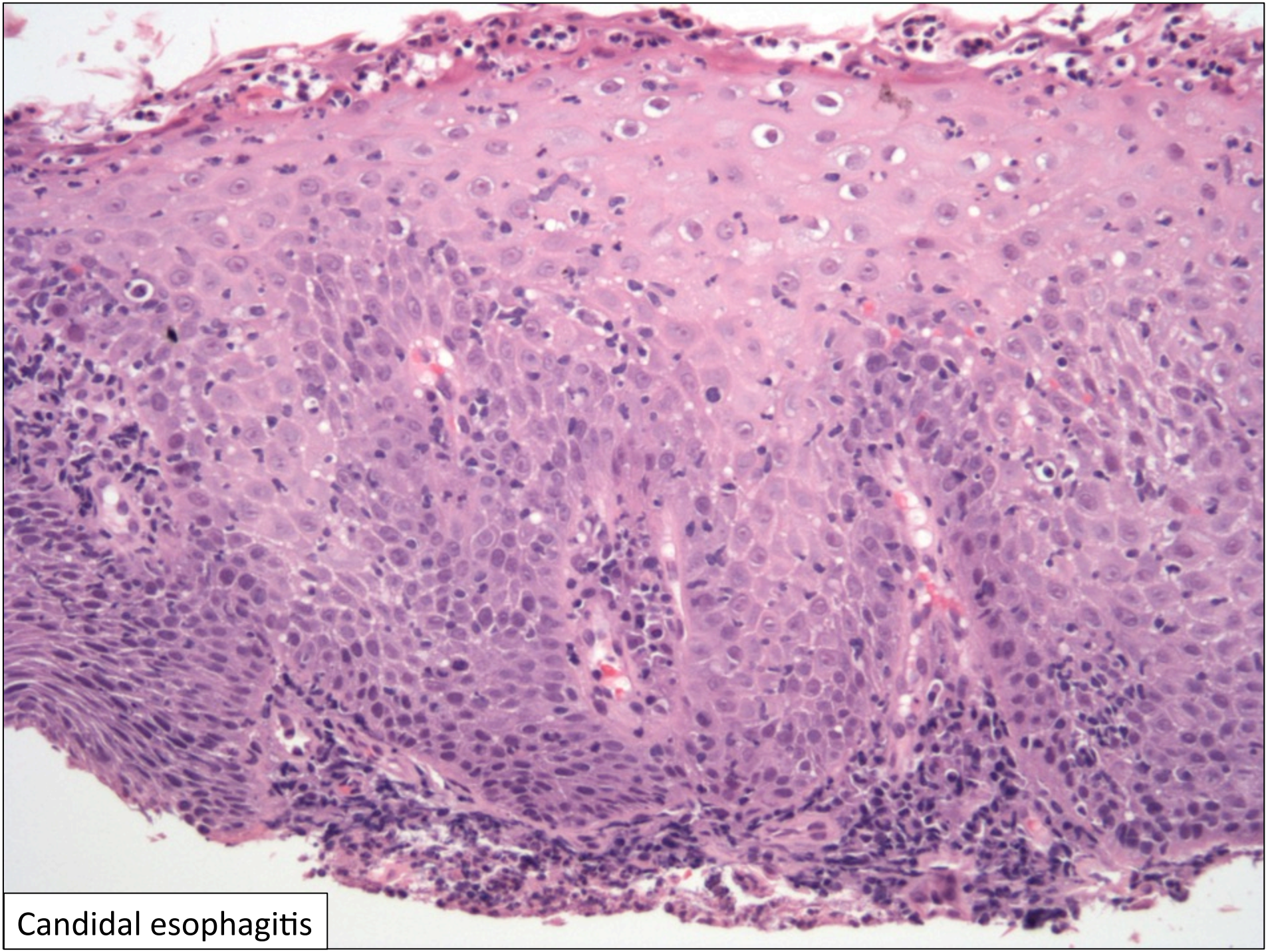

Clustered in epithelium
Dyskeratotic cells
Lymphocytic esophagitis

How about this one?

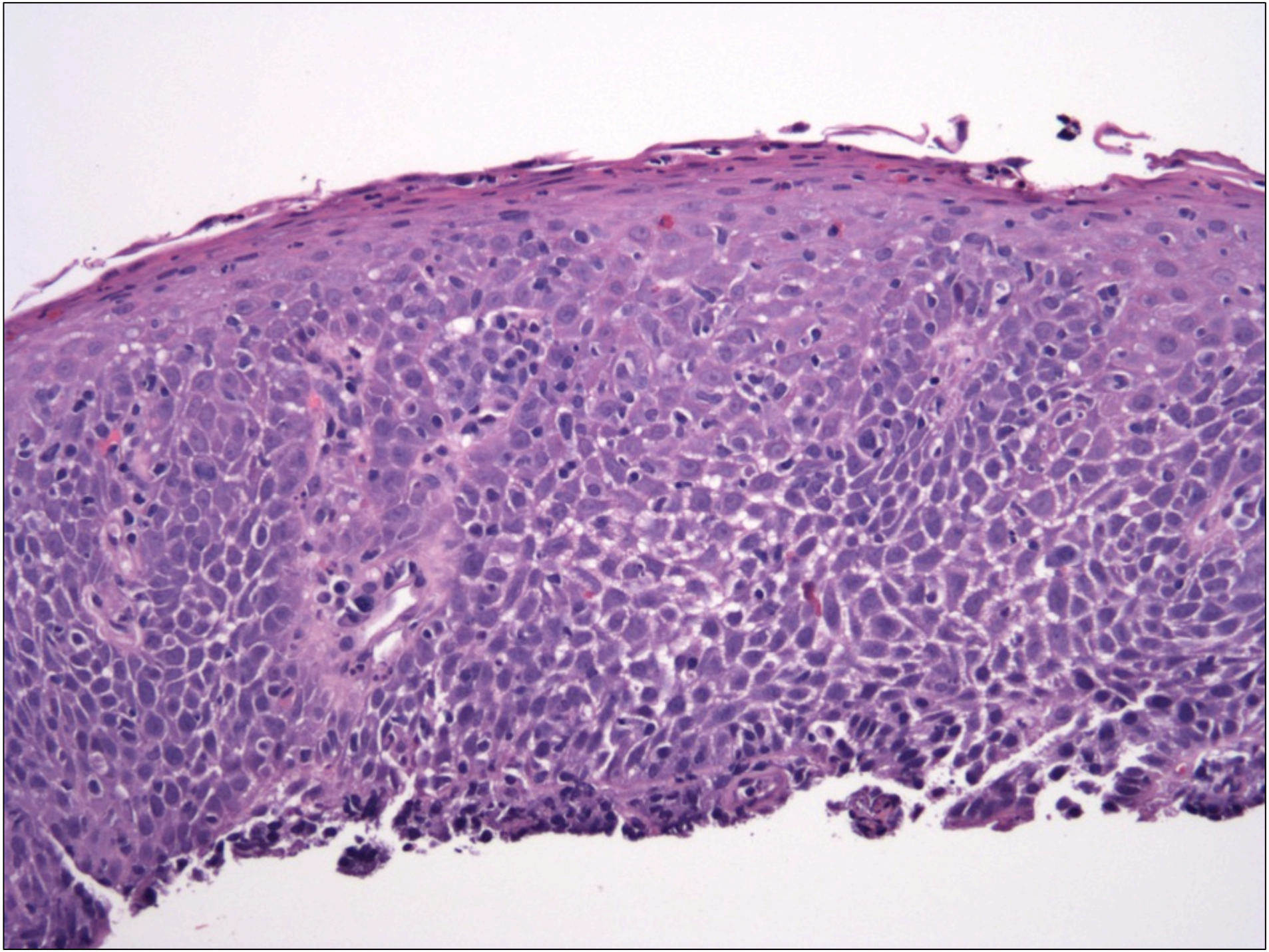


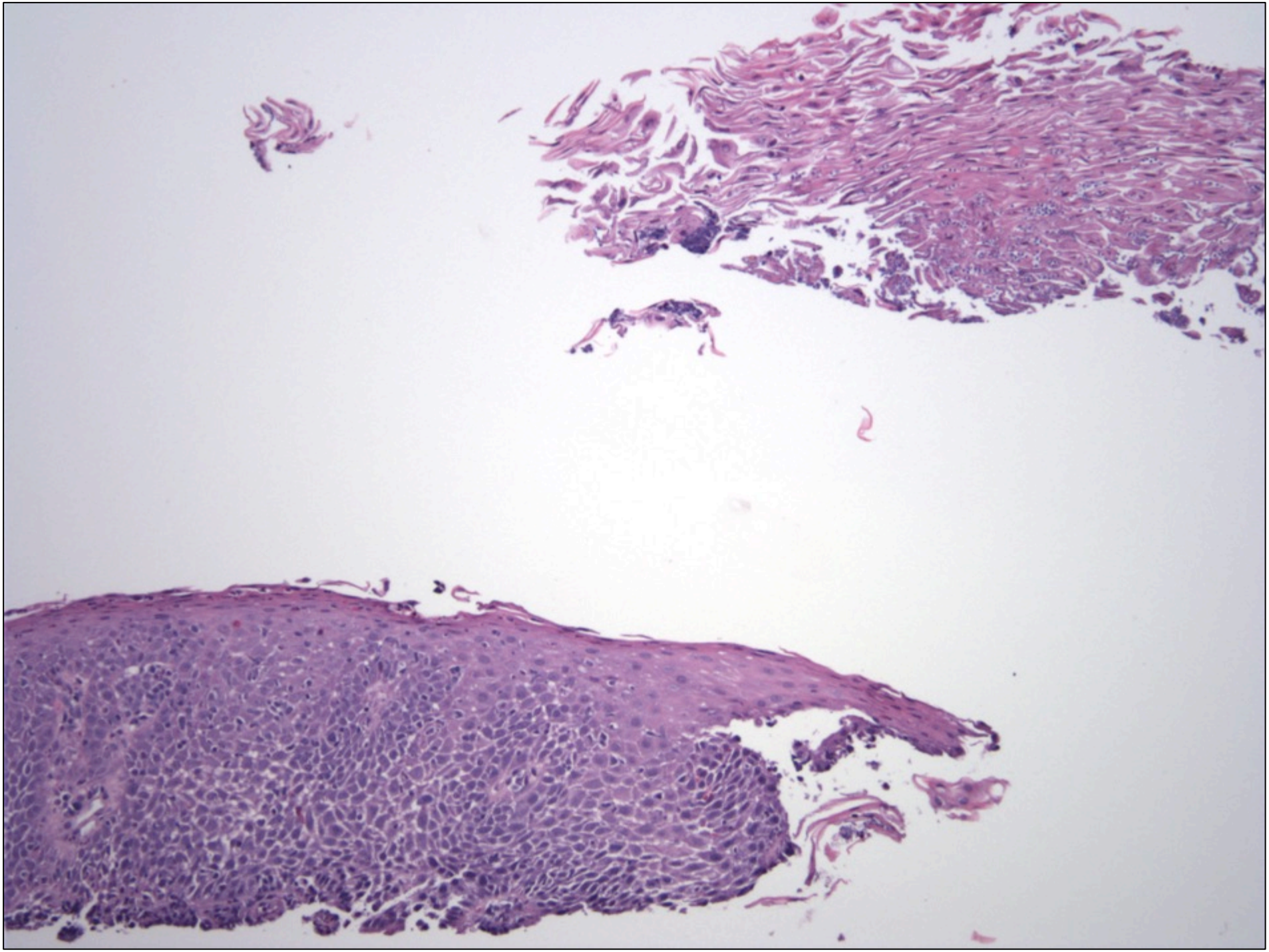
60-year old female with dyspepsia

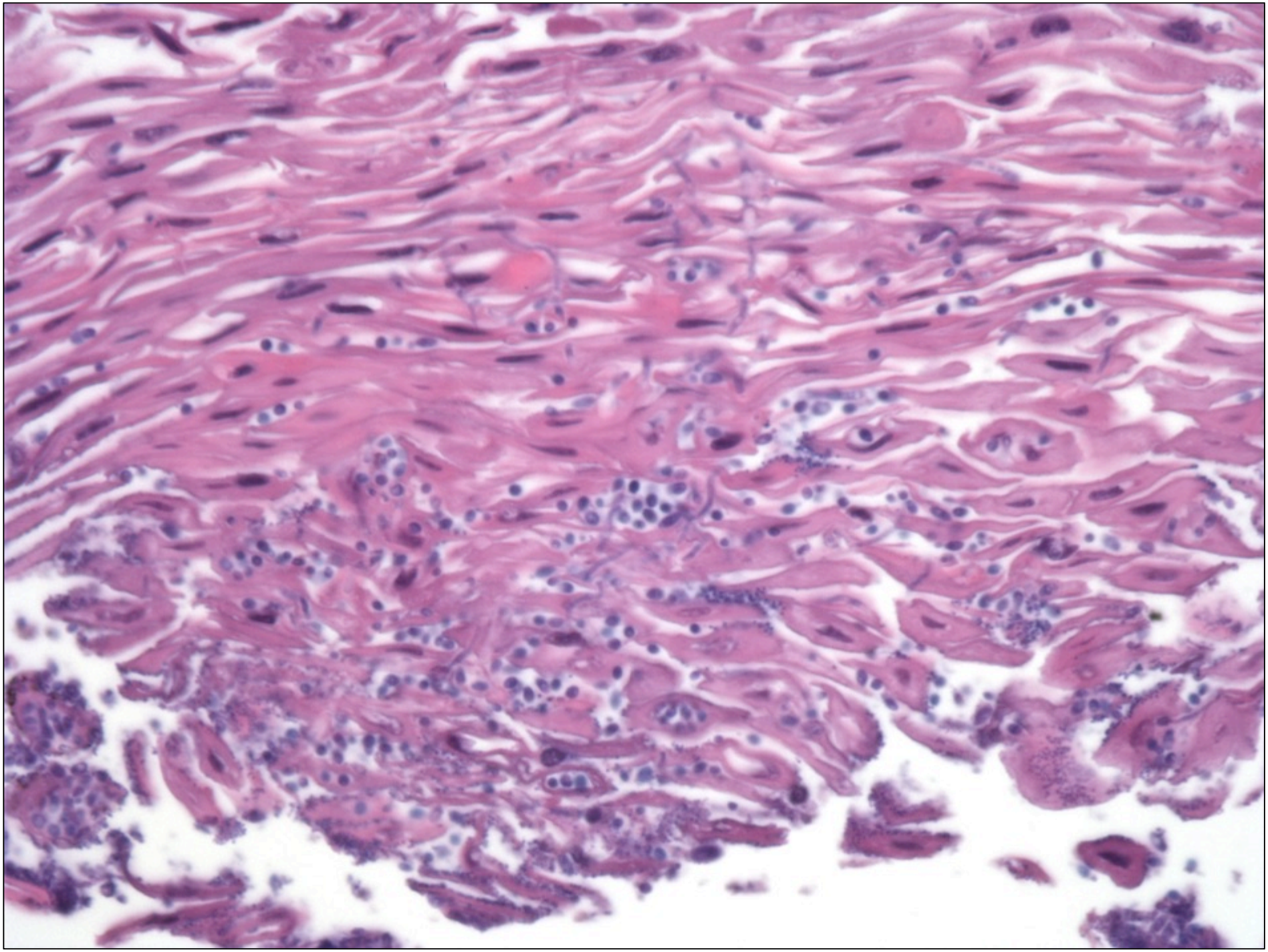
Lymphocytes in GERD, often 20/HPF or more

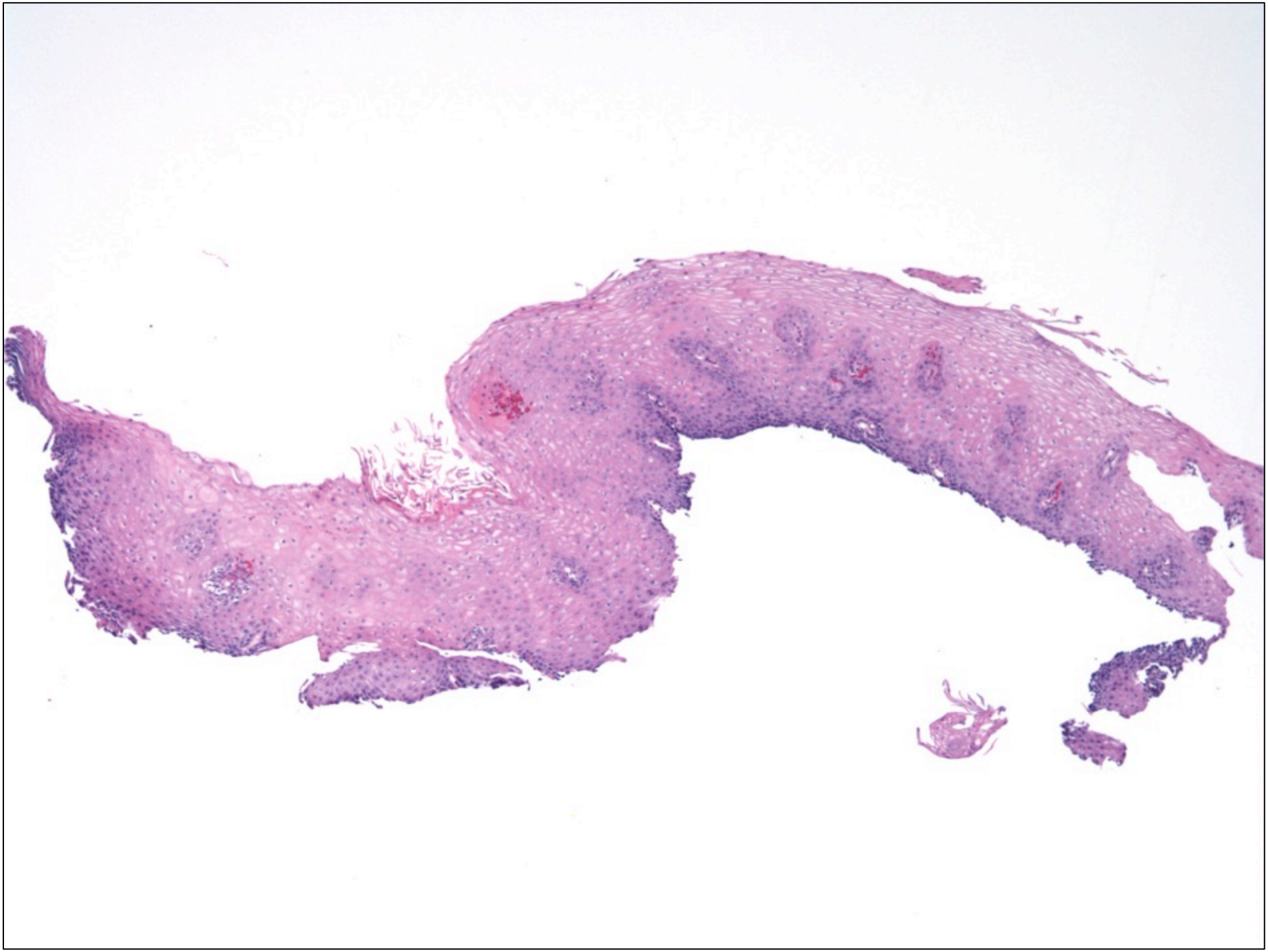


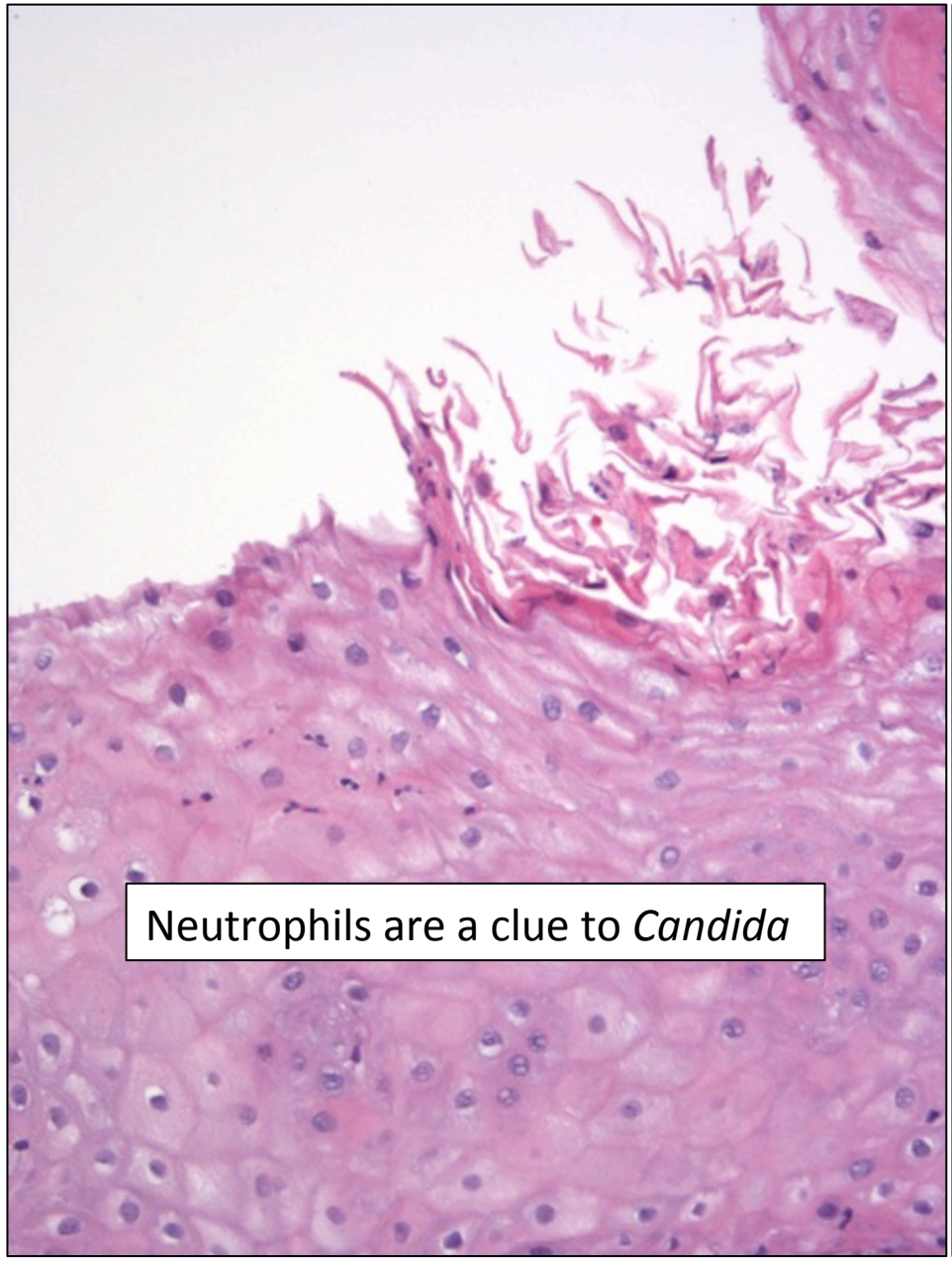
Candidal esophagitis

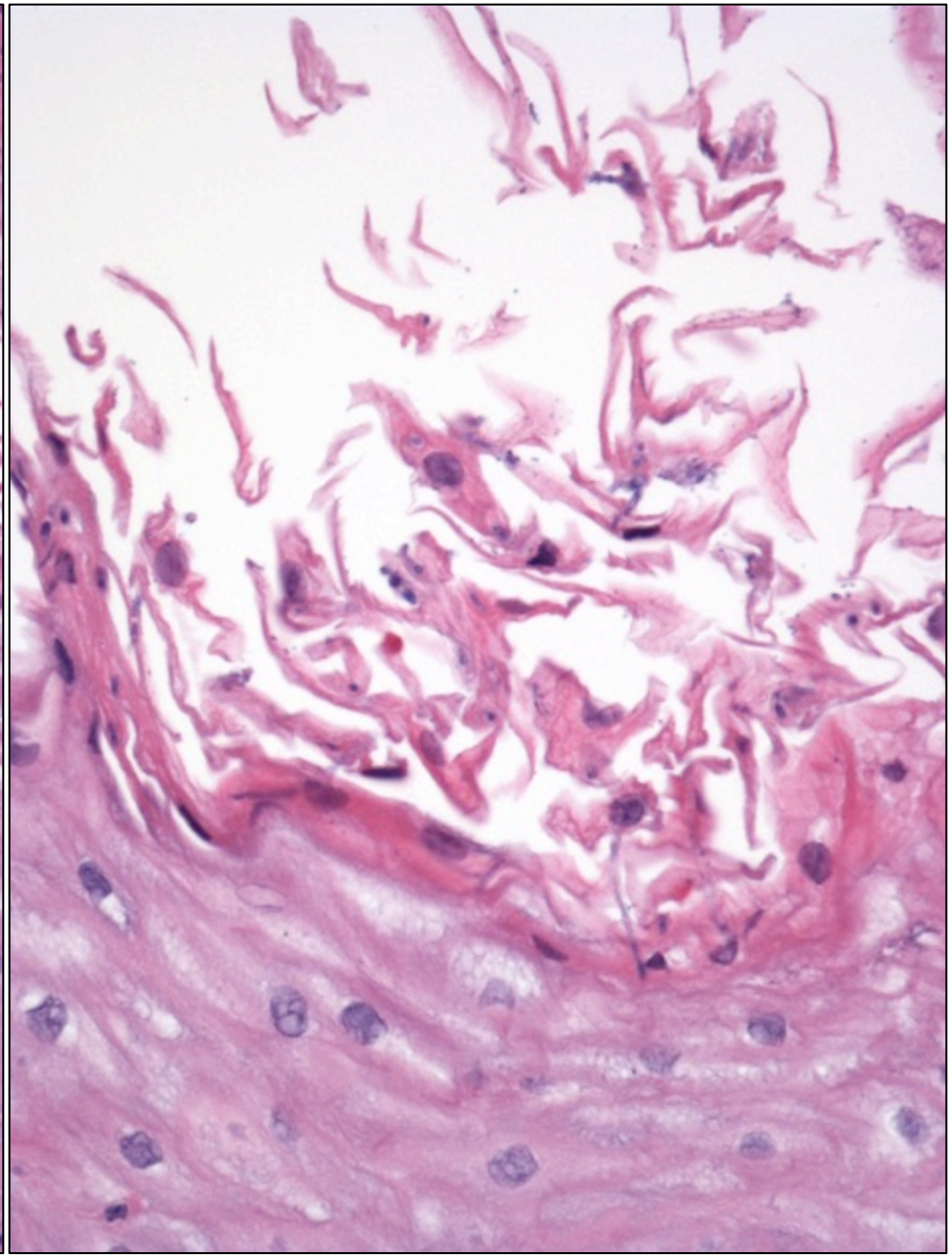









Neutrophils are a clue to *Candida*



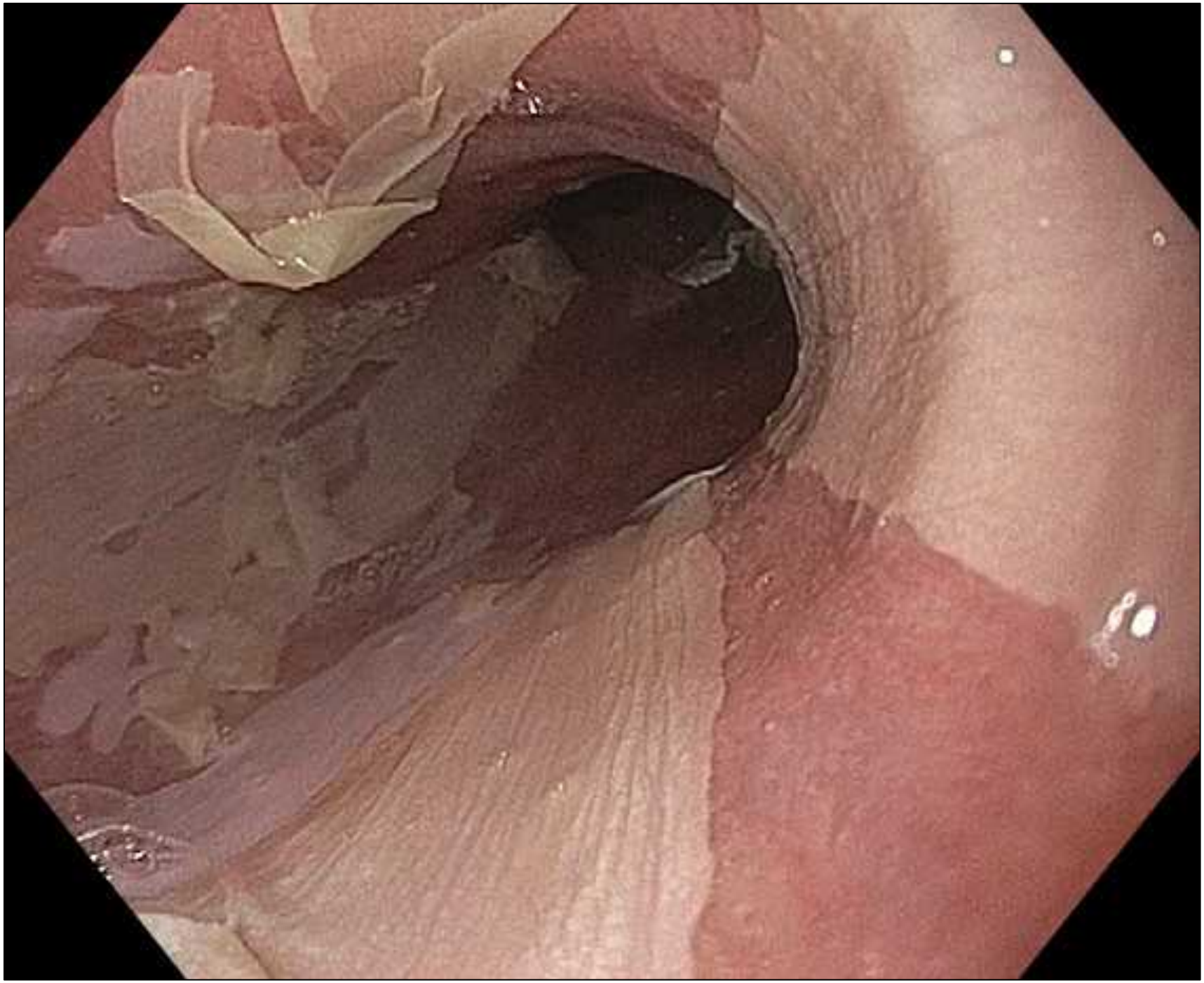
THERE ARE MANY CAUSES OF ESOPHAGEAL LYMPHOCYTOSIS….A DIAGNOSIS OF LYMPHOCYTIC ESOPHAGITIS REQUIRES CLINICAL CORRELATION

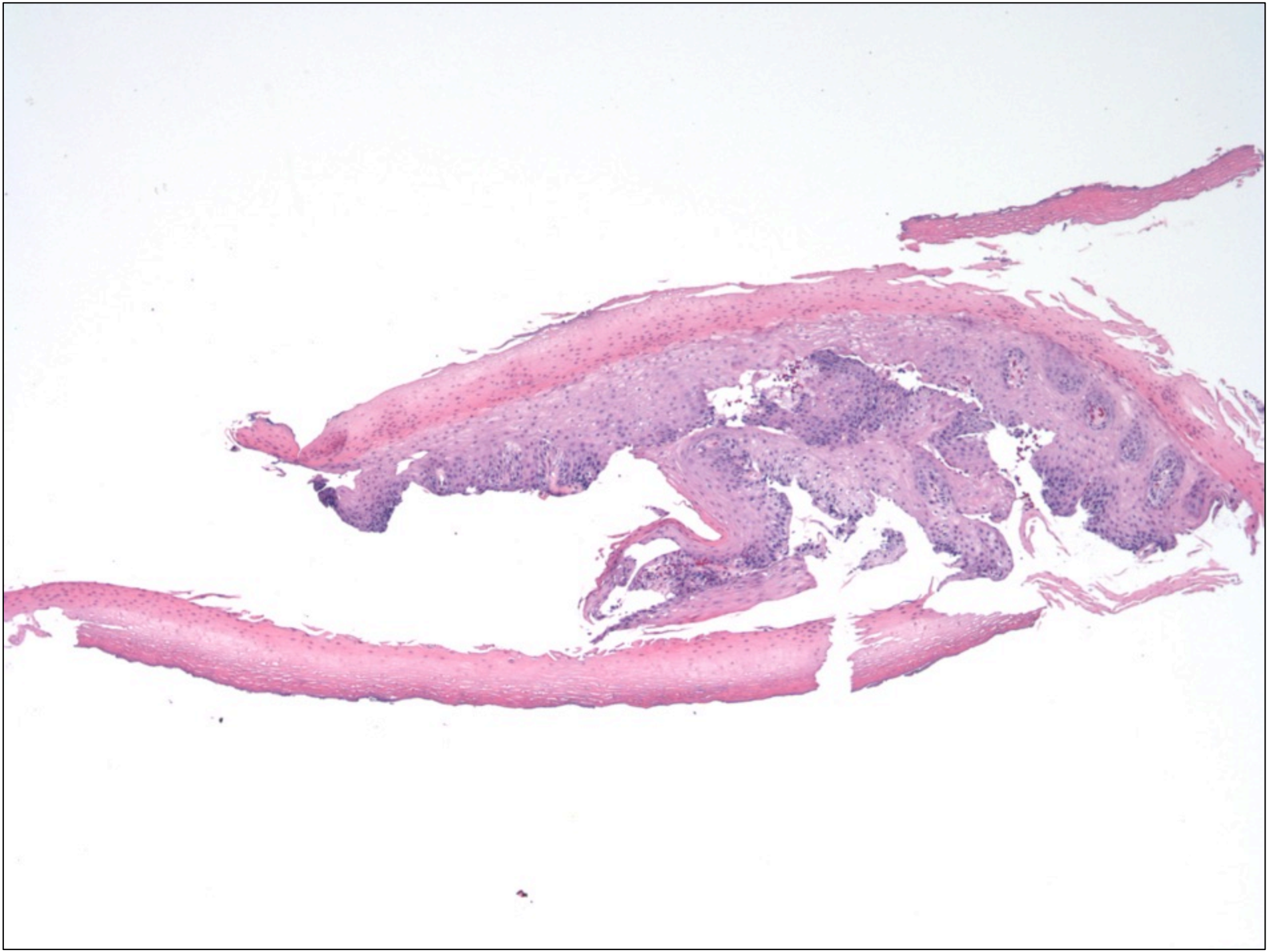
LYMPHOCYTIC ESOPHAGITIS DIAGNOSTIC CRITERIA

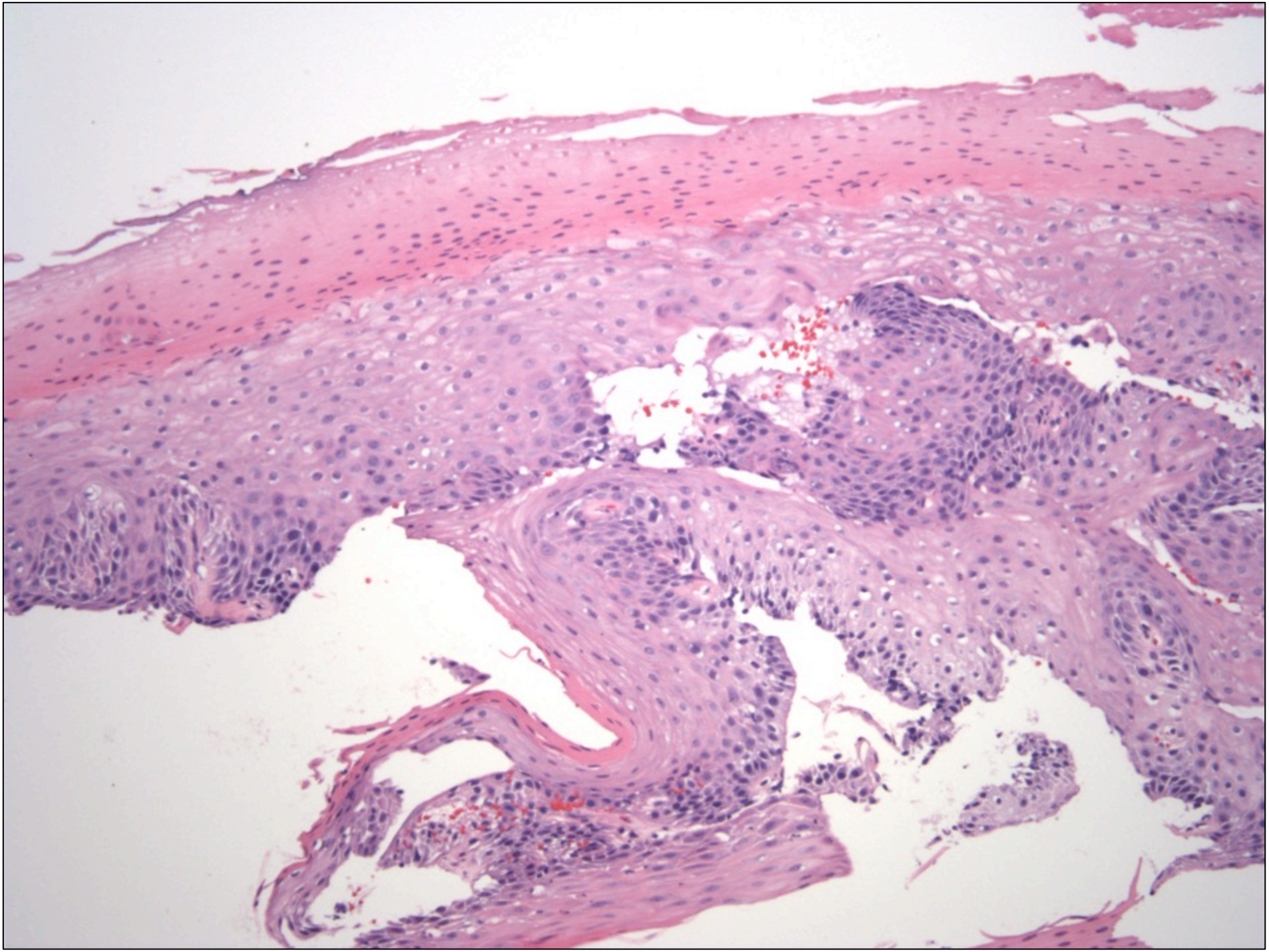
- I generally don't make this diagnosis unless
  - There are numerous intraepithelial lymphocytes with clustering and evidence of injury
    - Dyskeratotic epithelial cells
    - Intercellular edema
  - Other etiologies (GERD, eosinophilic esophagitis, candidiasis, stasis) rigorously excluded
  - Endoscopic findings suggest a diffuse mucosal abnormality (not just near the GE junction)
- Restricted definition likely identifies a group of patients with immune-mediated or drug-related injury similar to lymphocytic "itis" of the remaining GI tract

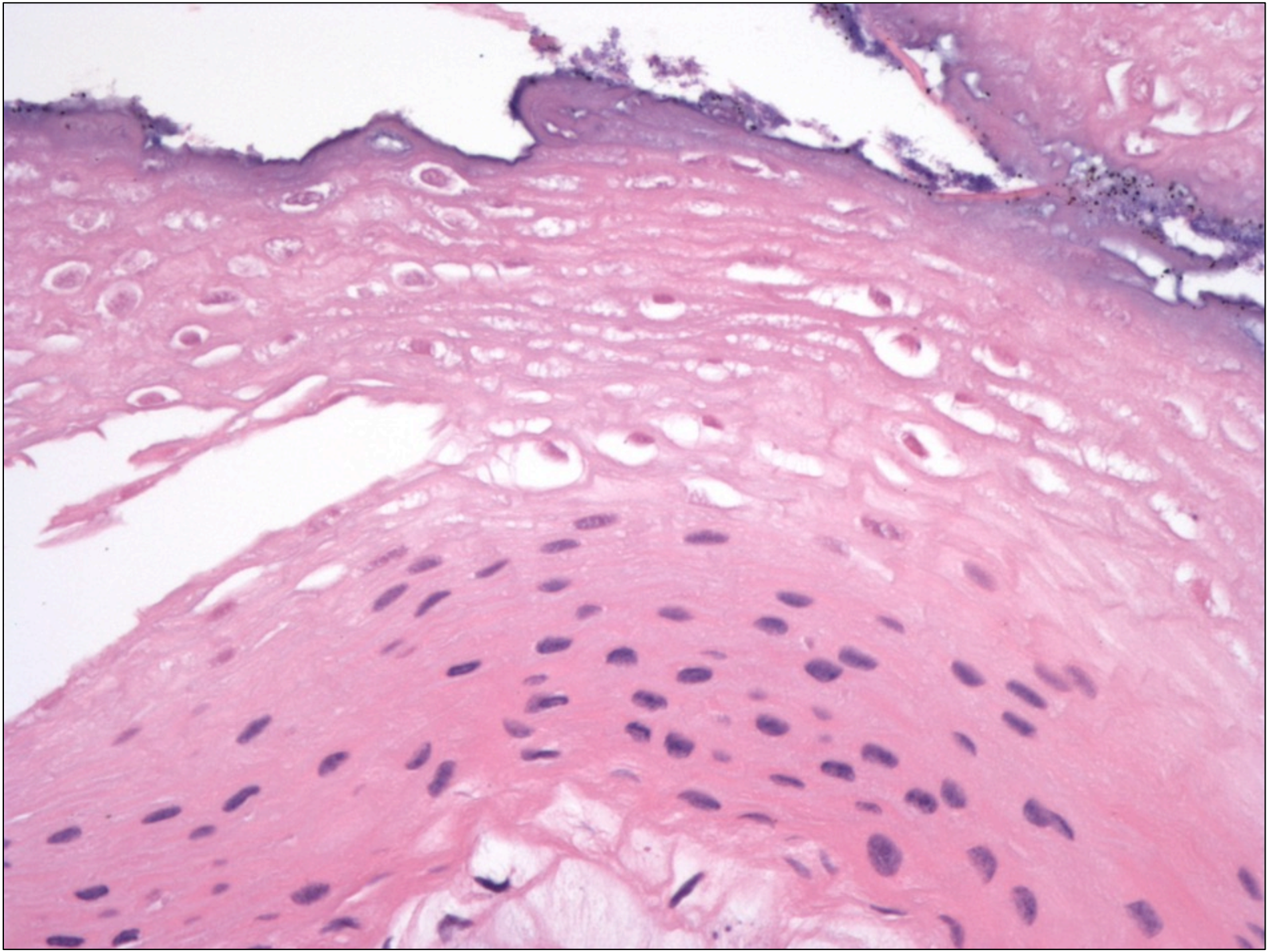
CASE

- 82-year old woman with CHF, COPD, recent fall
- Admitted to evaluate iron deficiency anemia



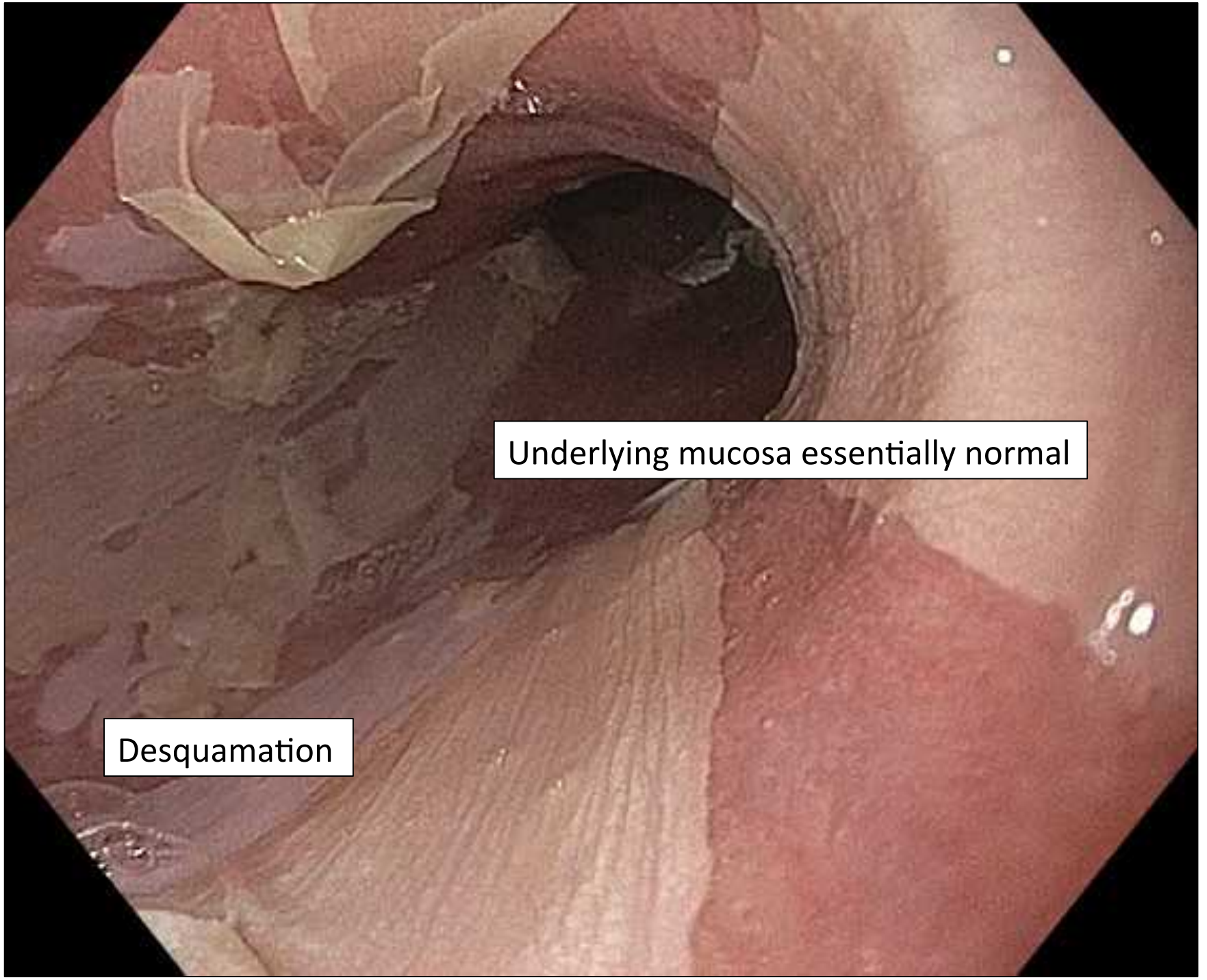


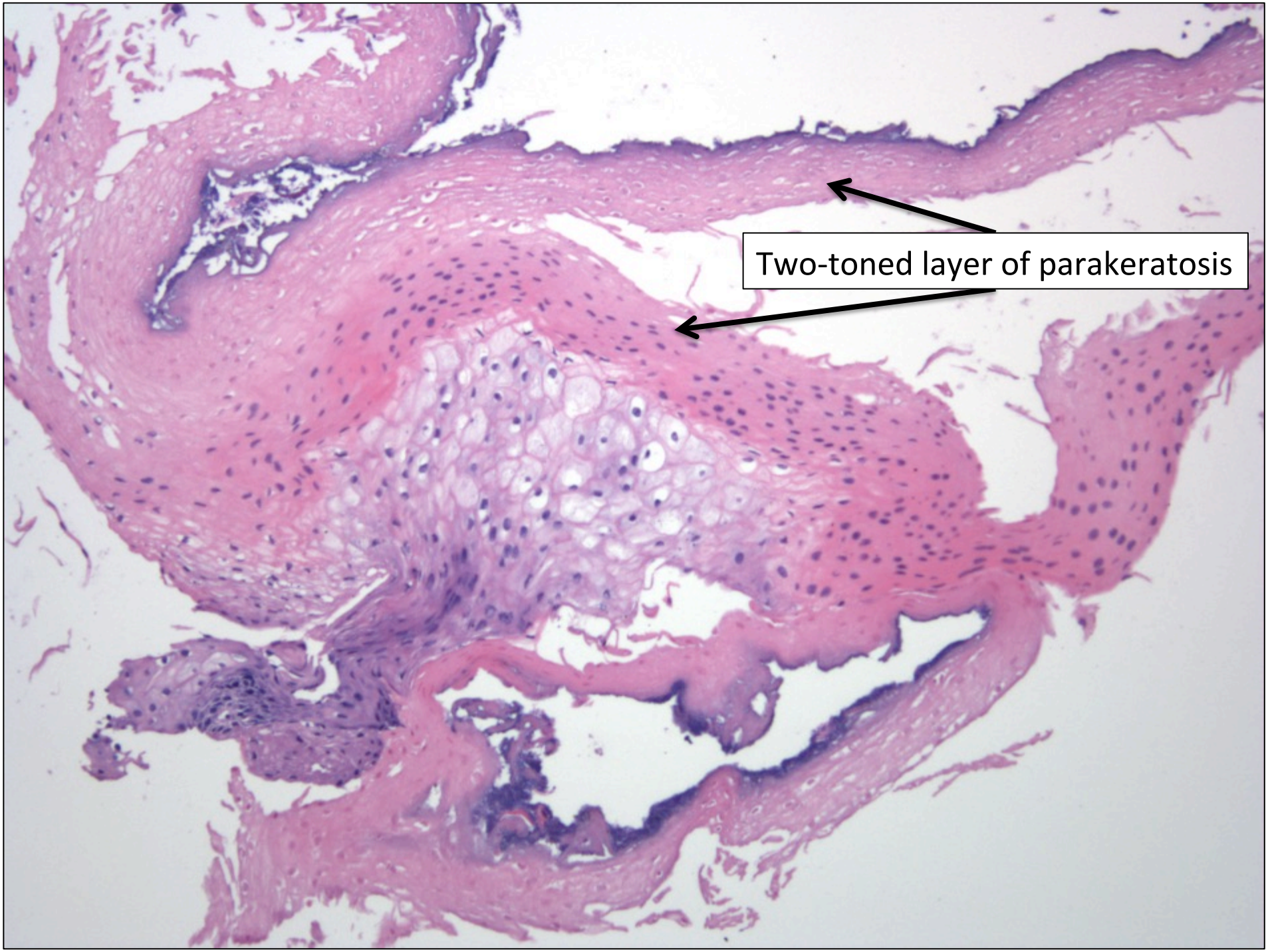


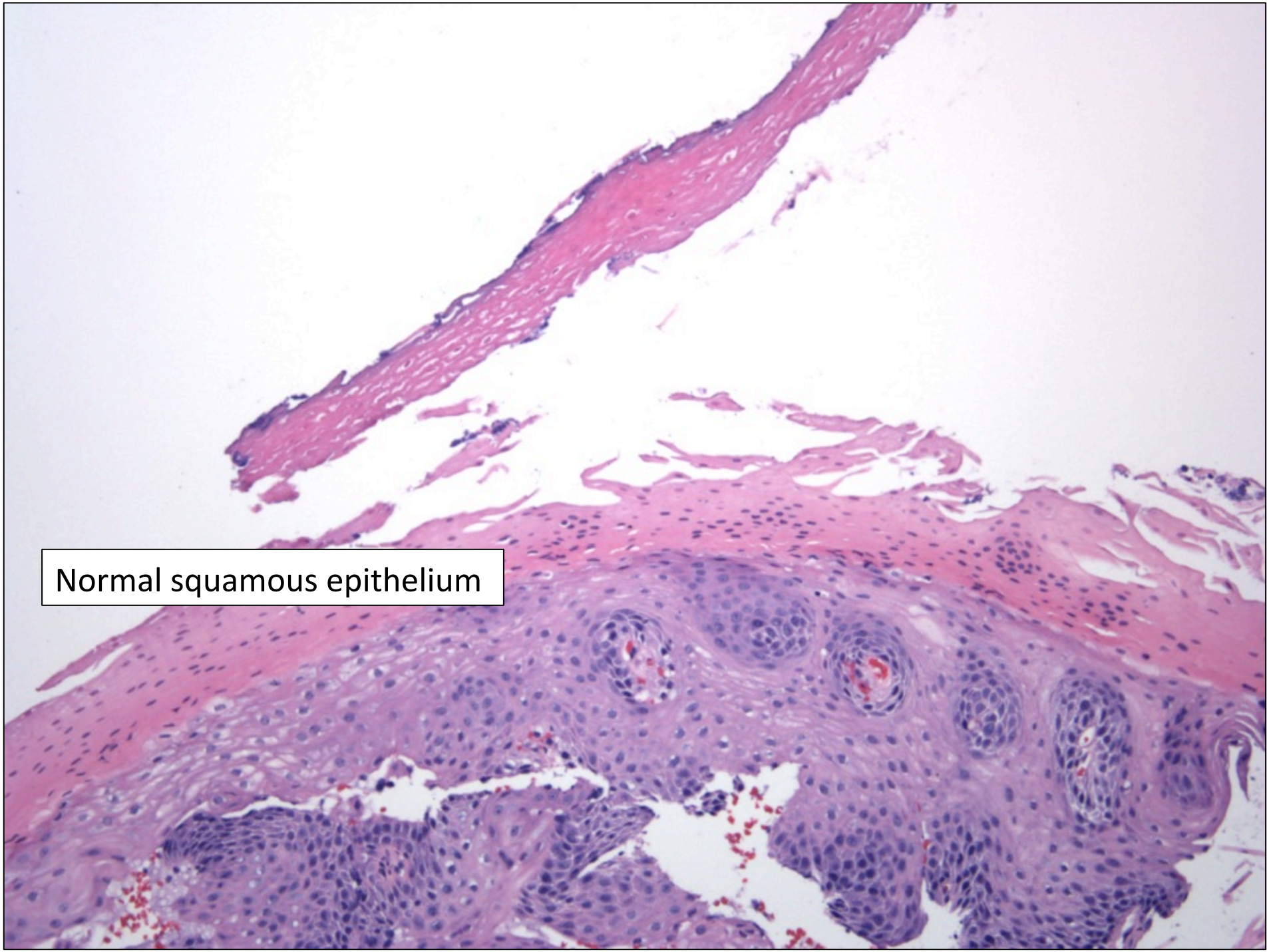


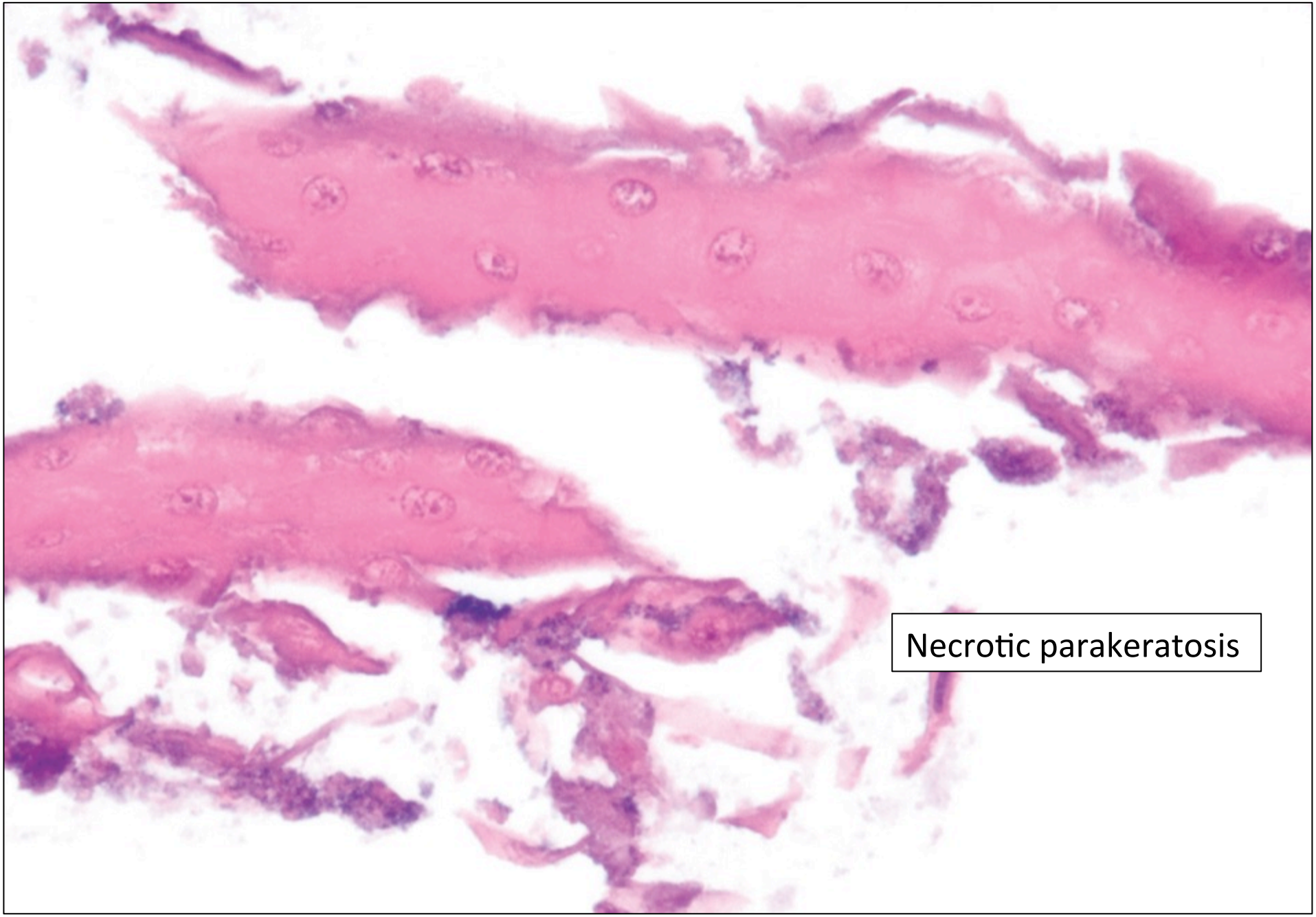
ESOPHAGITIS DISSECANS SUPERFICIALIS
SLOUGHING ESOPHAGITIS

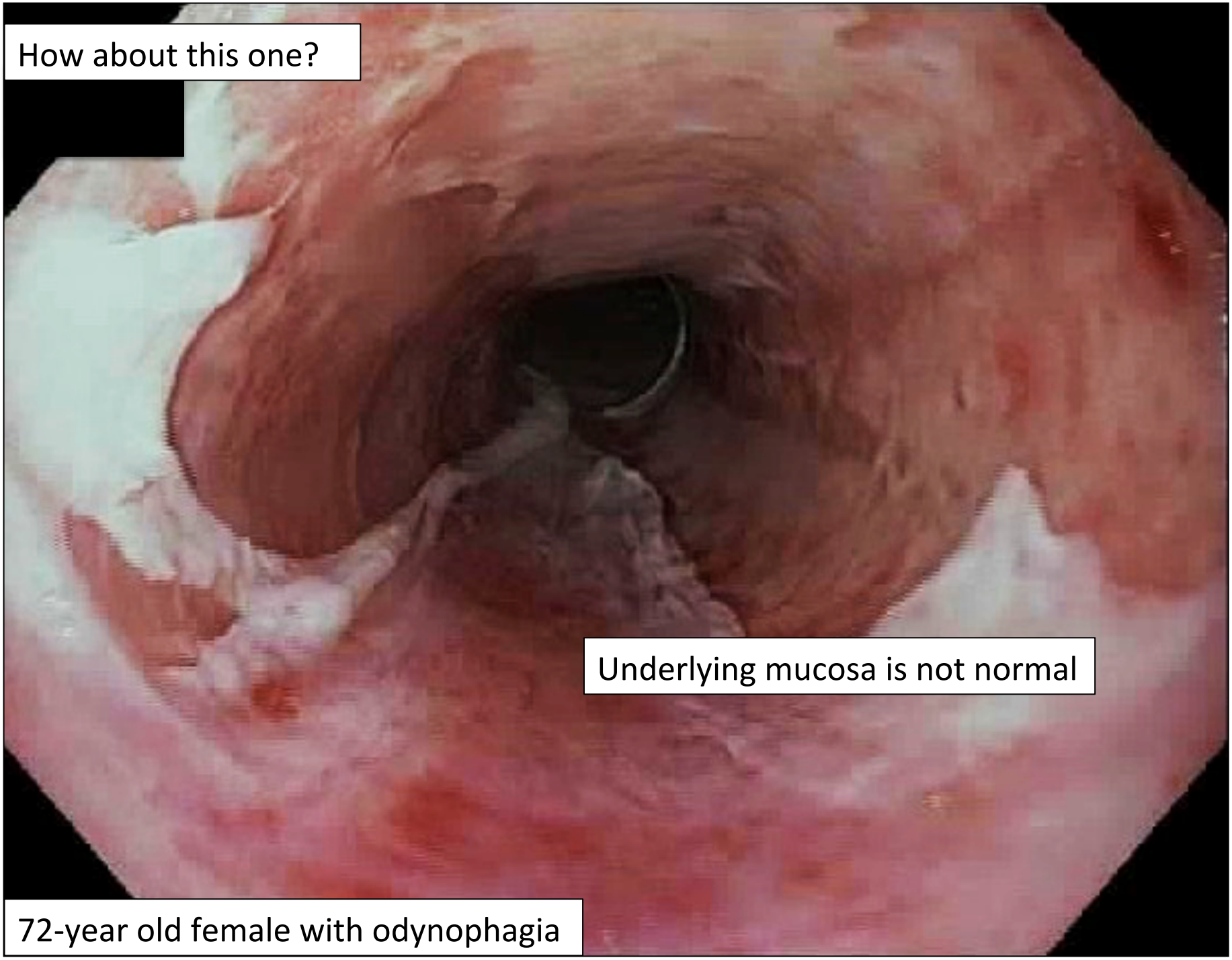
- Elderly patients
- Men and women equally affected
- Asymptomatic, dysphagia
- Self-limited with endoscopic resolution
- Chronic debilitating diseases
- Medications
  - NSAIDs, bisphosphonates, potassium chloride
  - CNS depressants
  - Medications that cause dry mouth (opioids, SSRIs)

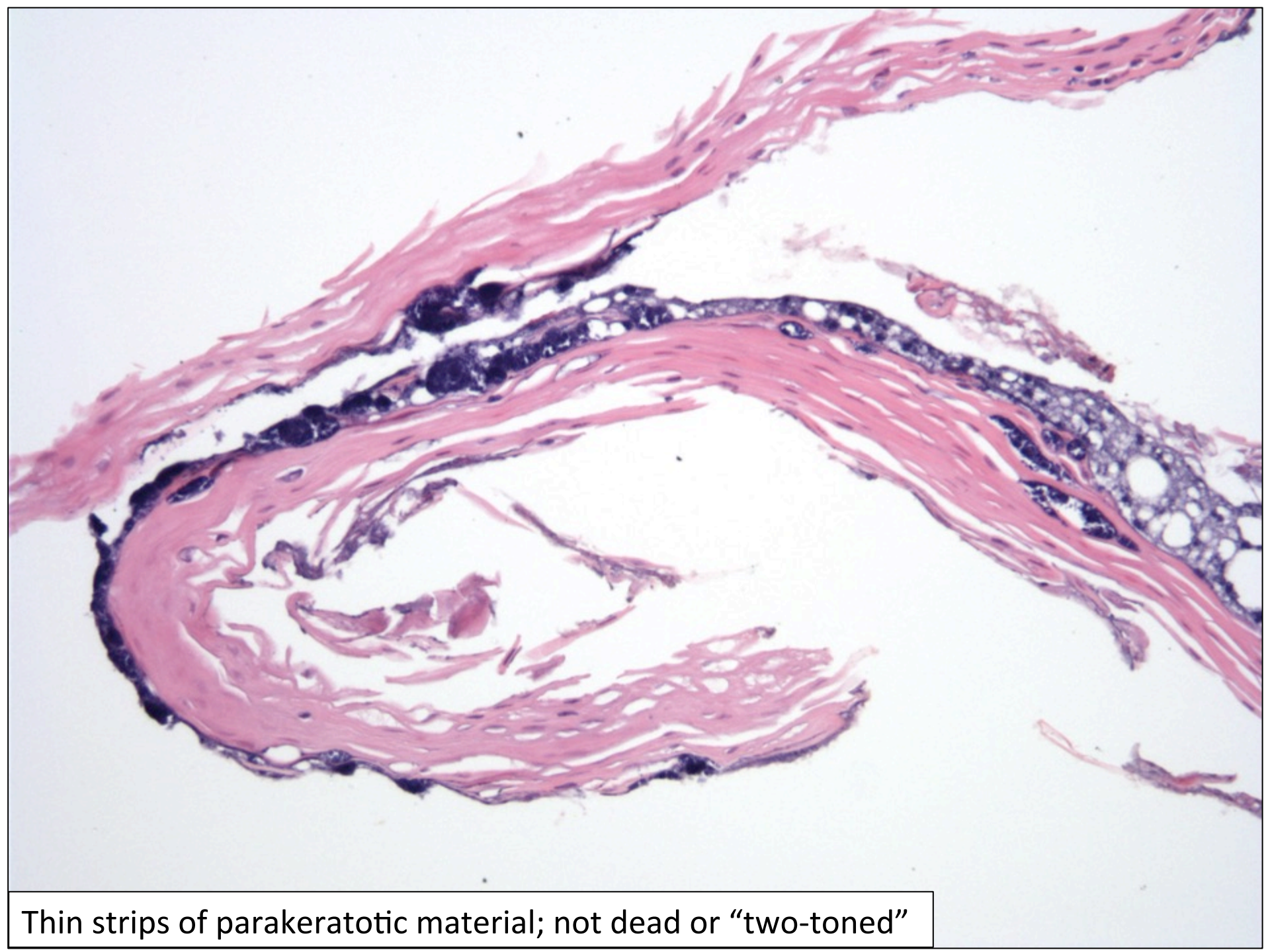

Underlying mucosa essentially normal
Desquamation


Two-toned layer of parakeratosis

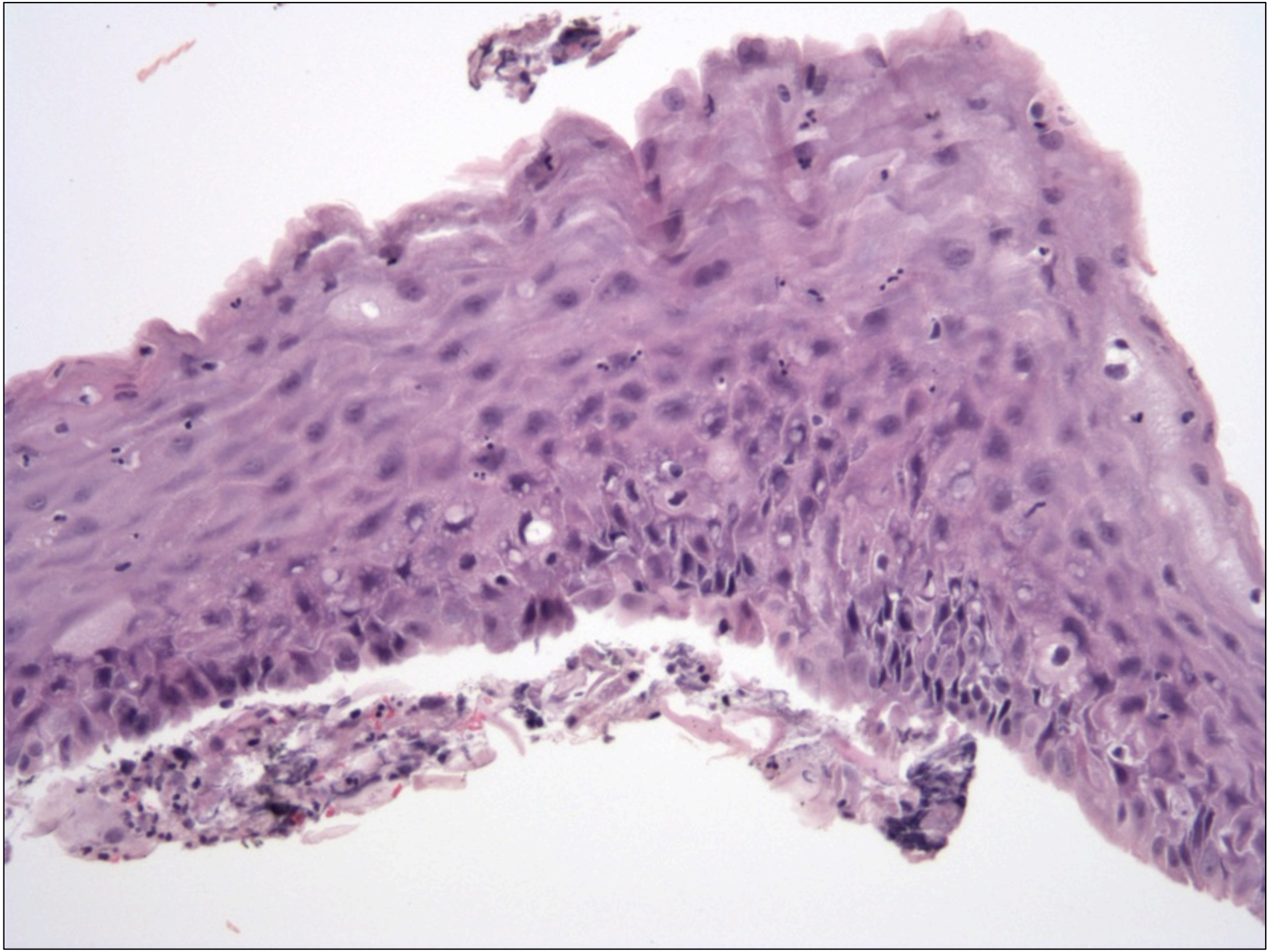

Normal squamous epithelium

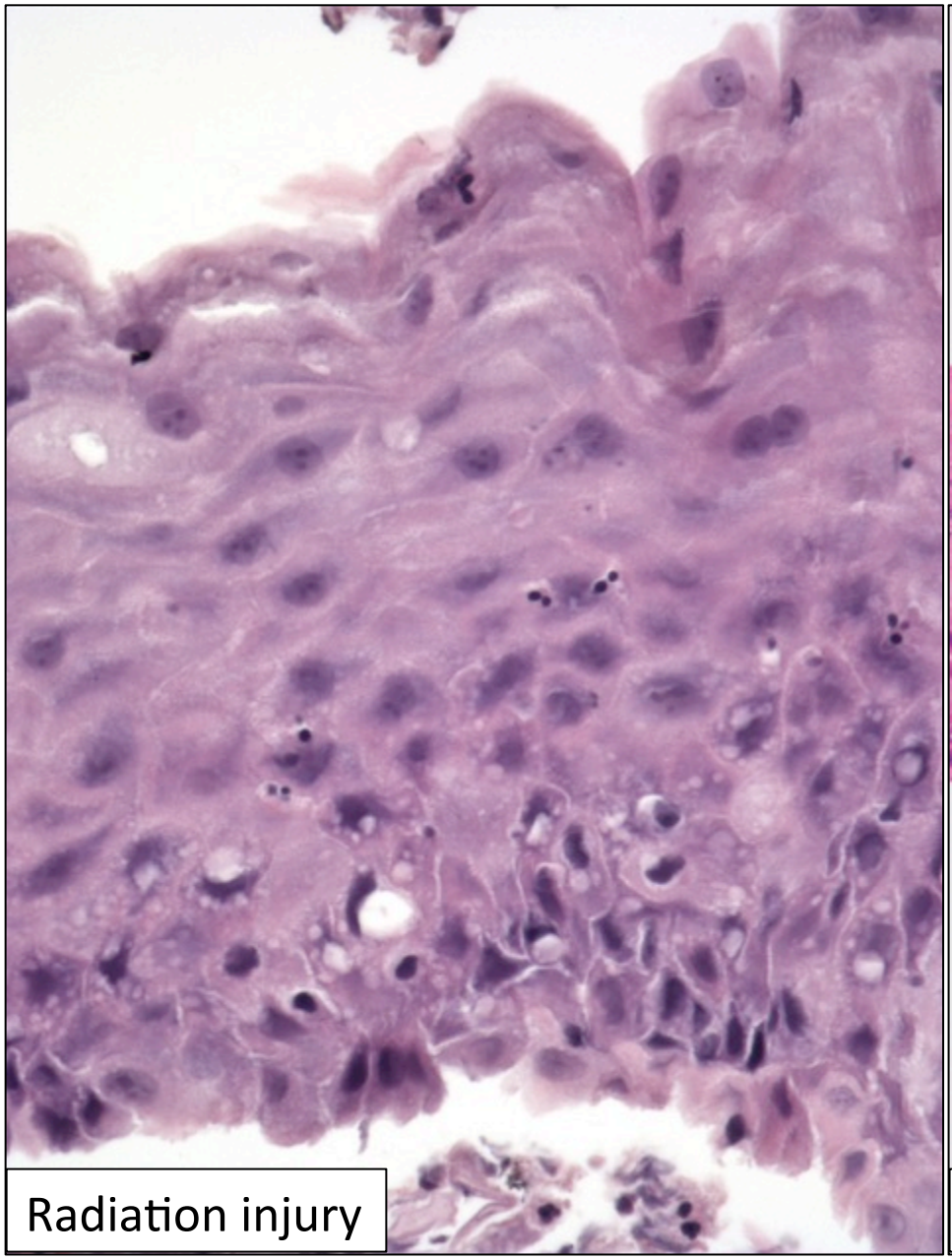

Necrotic parakeratosis


How about this one?
Underlying mucosa is not normal
72-year old female with odynophagia



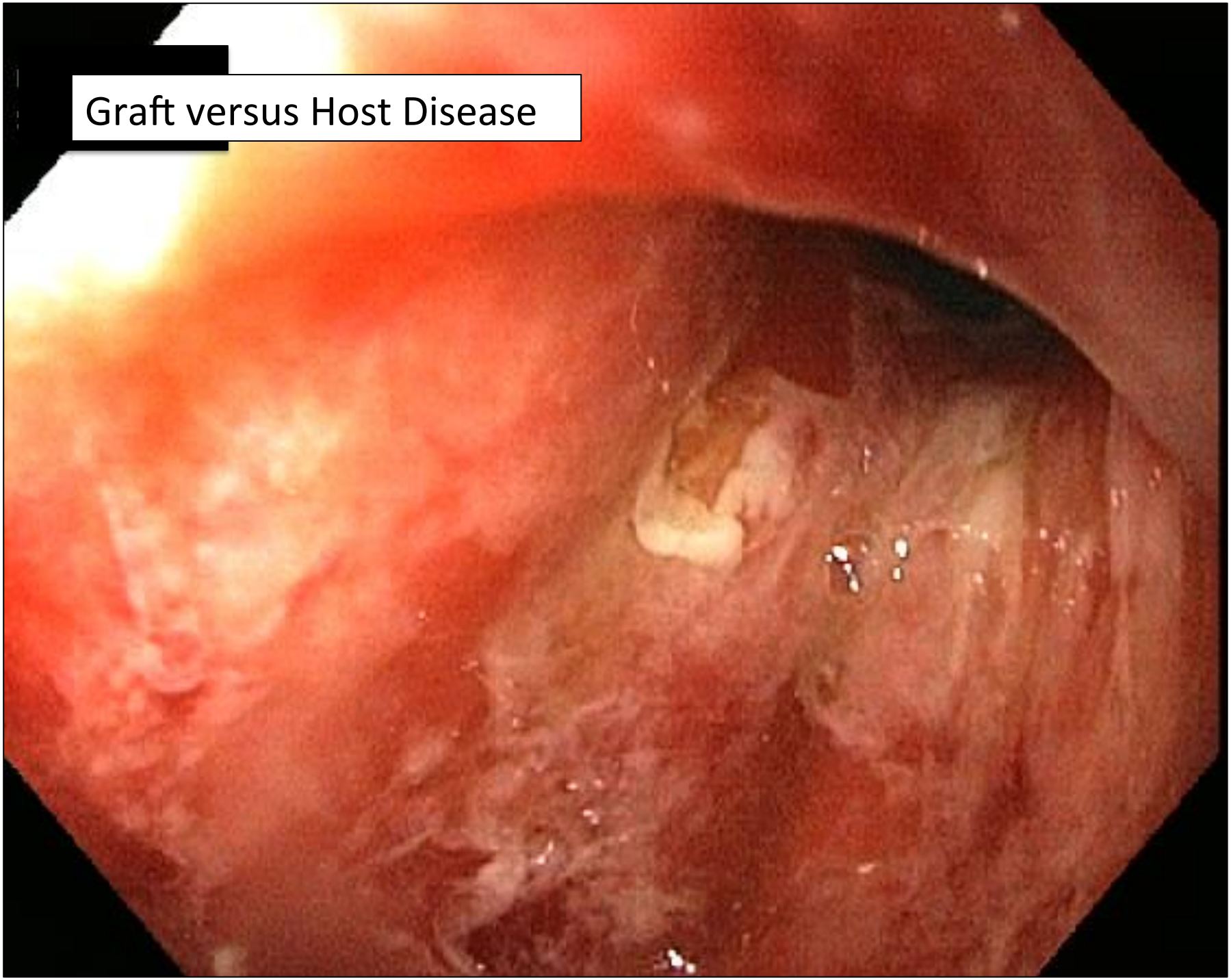
Thin strips of parakeratotic material; not dead or “two-toned”



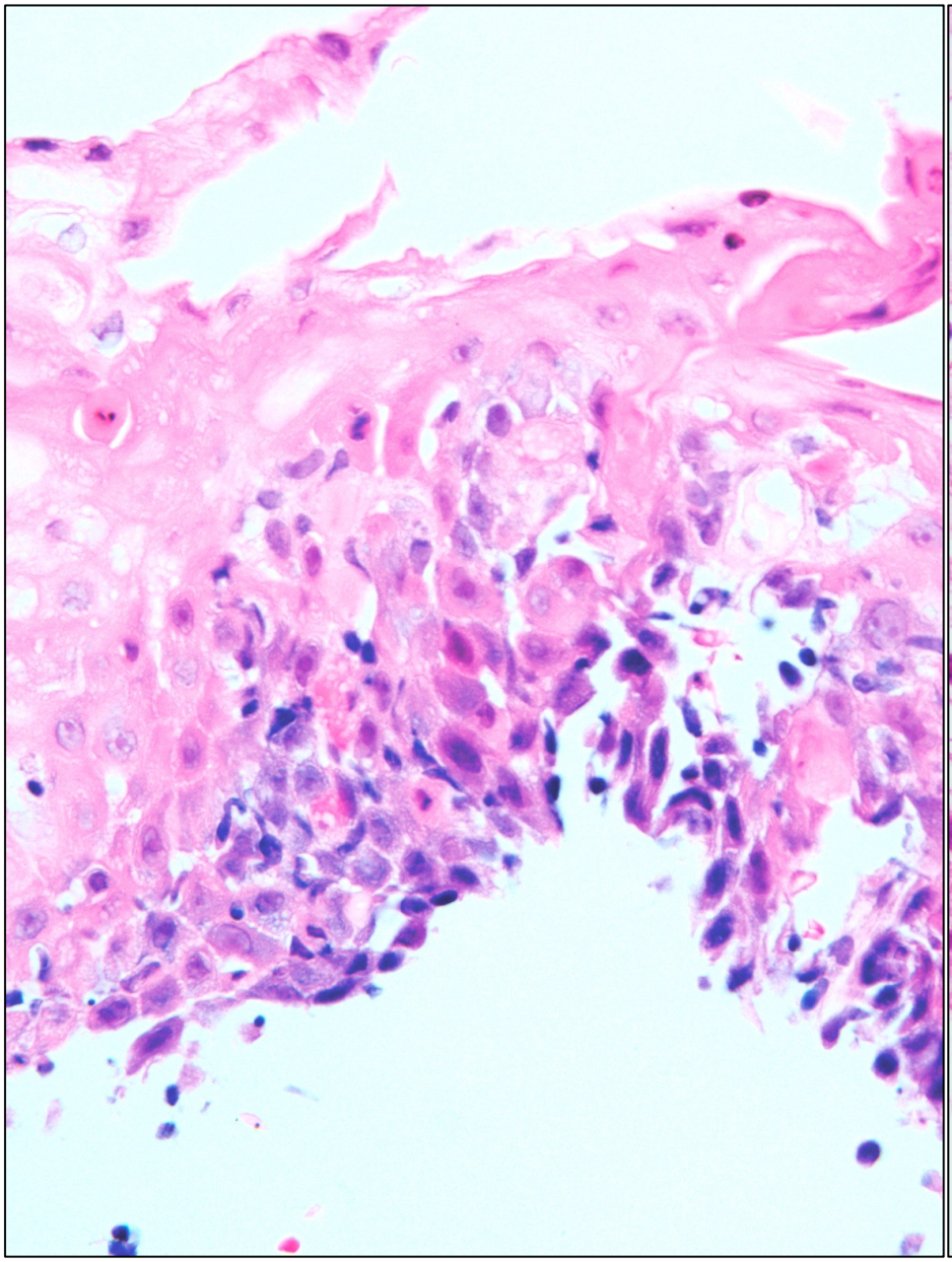


Radiation injury

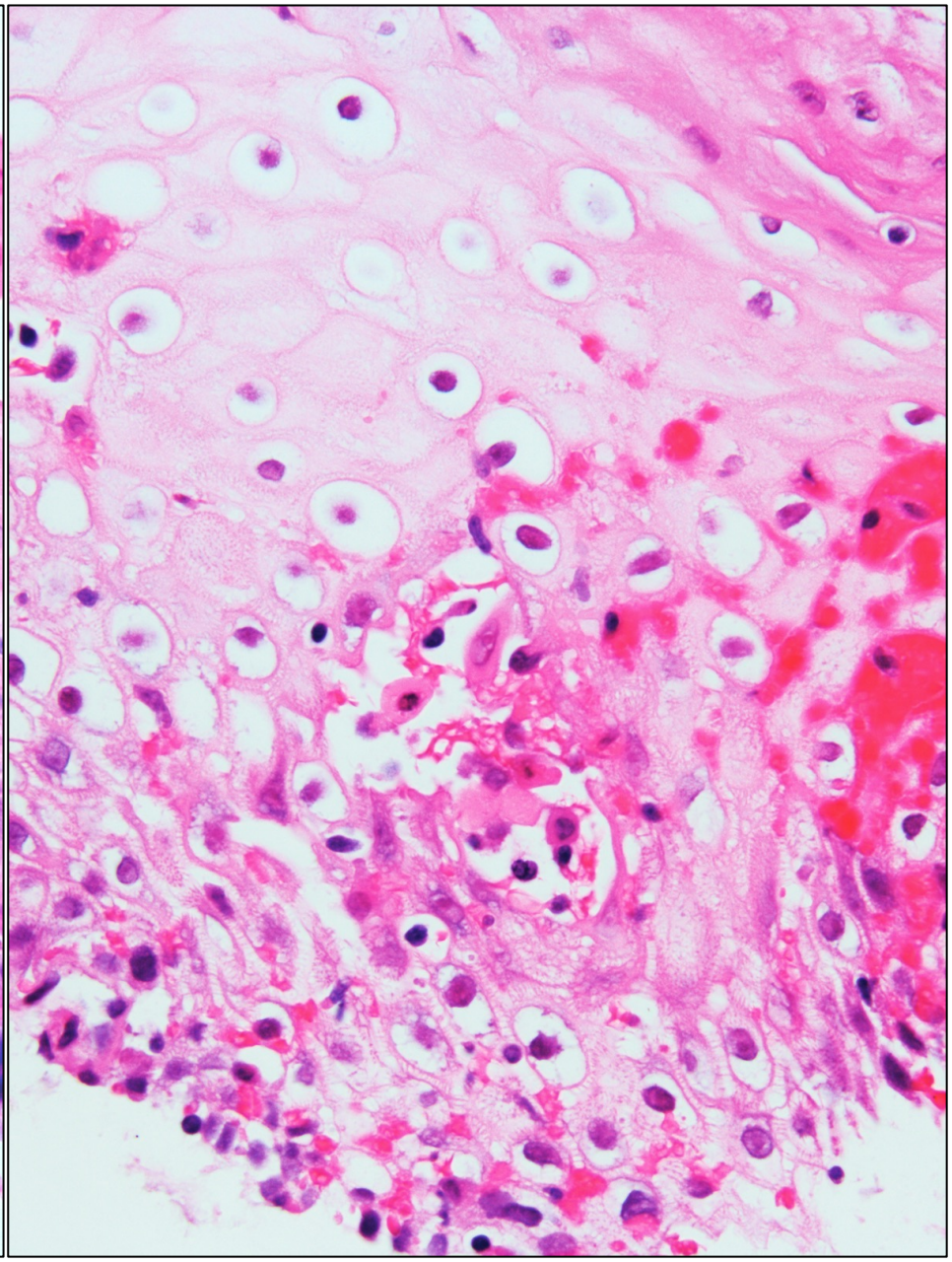
Vacuolated weird cells in basal zone


Graft versus Host Disease

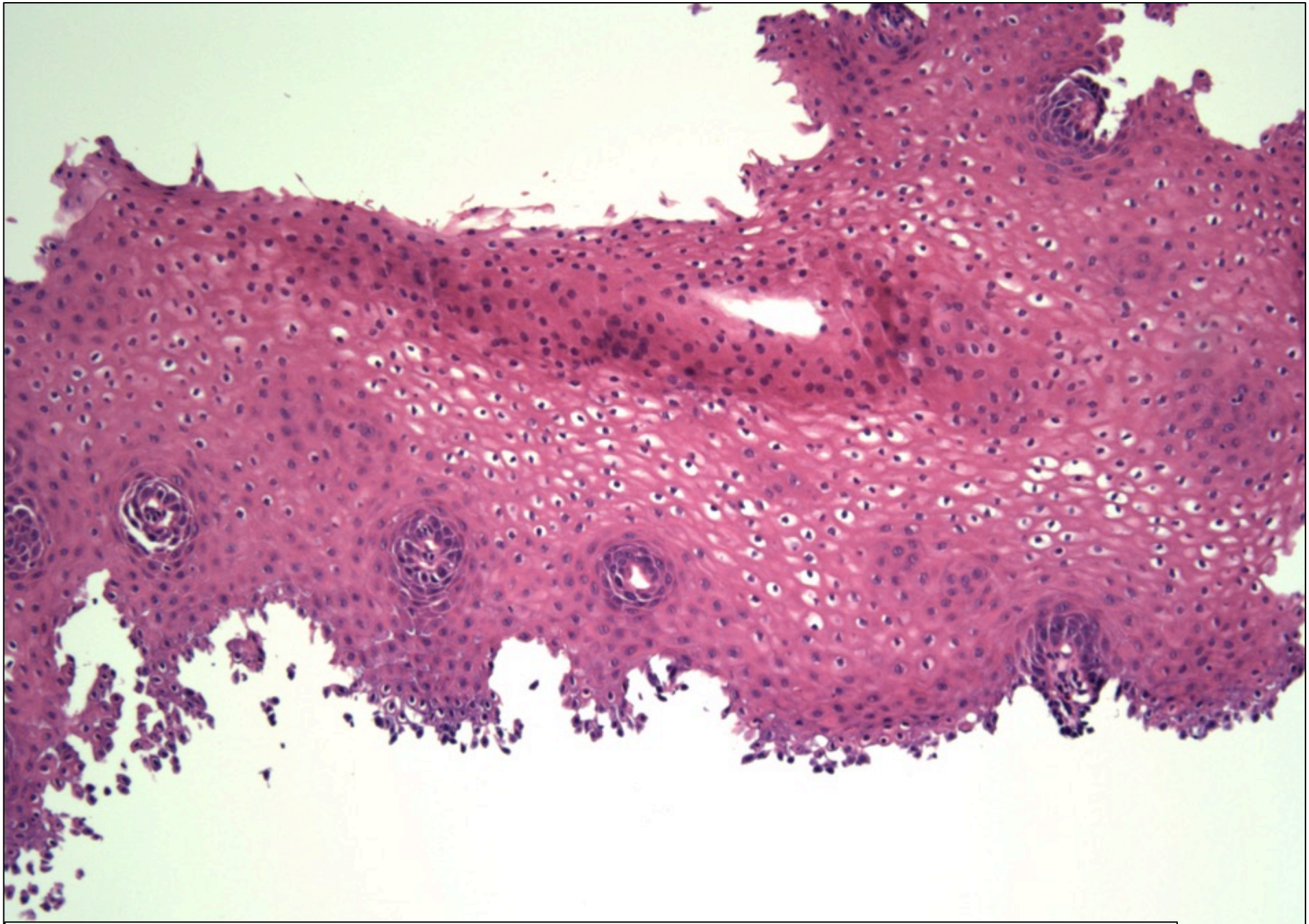
Graft versus Host Disease



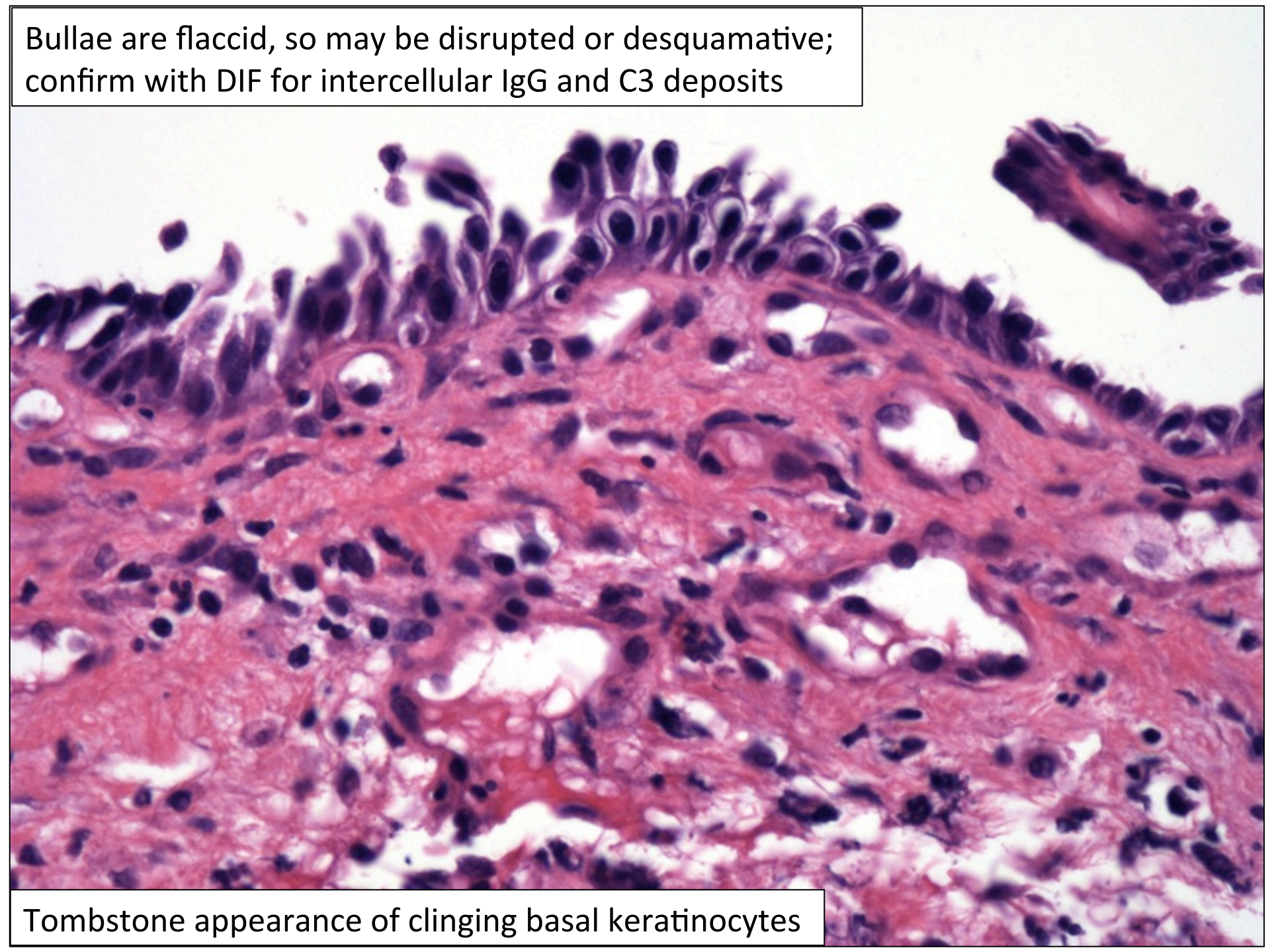
Apoptotic keratinocytes



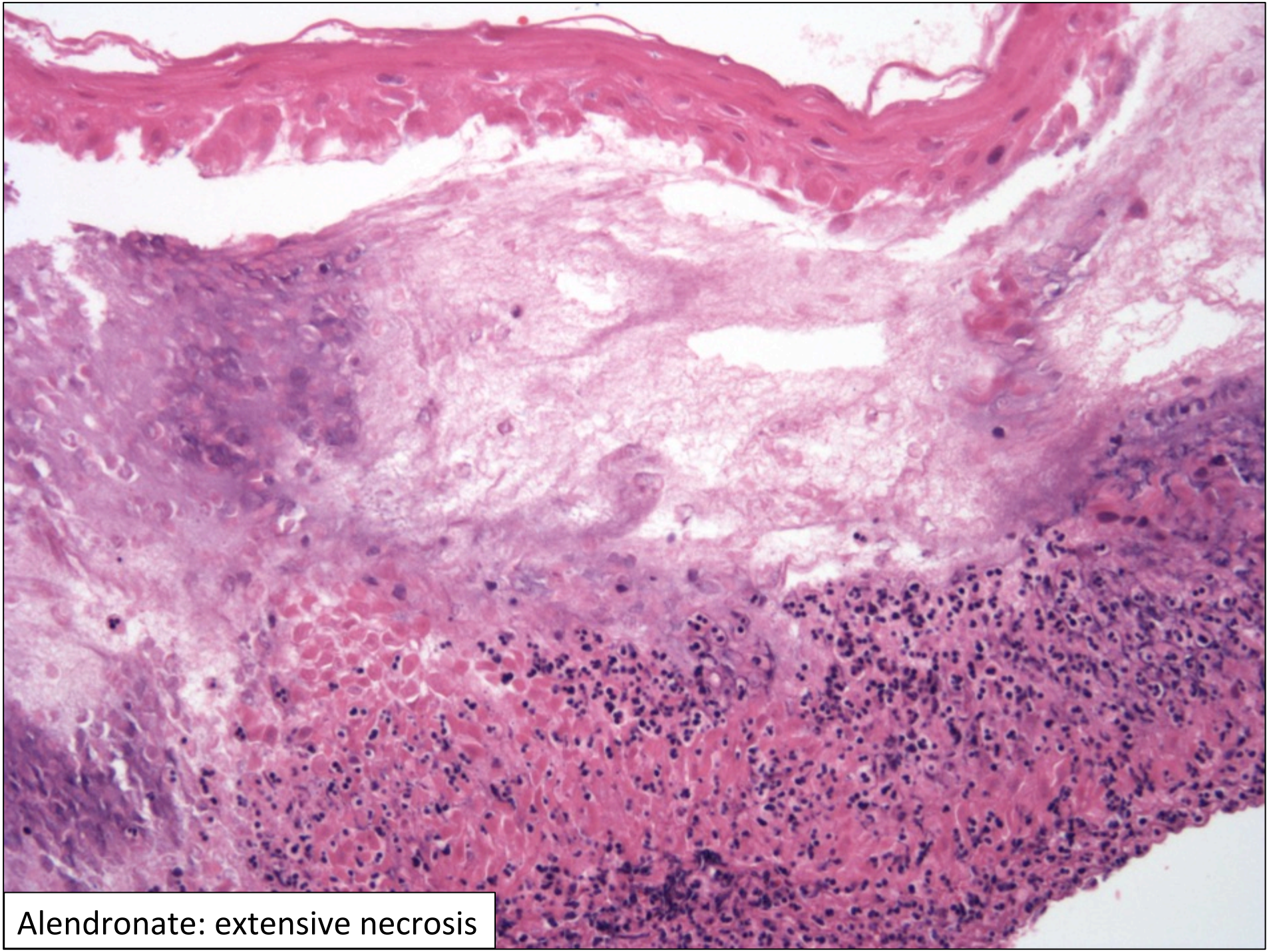
Degenerated basal keratinocytes



Pemphigus vulgaris; esophageal desquamation, but subtle histologic findings


Bullae are flaccid, so may be disrupted or desquamative; confirm with DIF for intercellular IgG and C3 deposits
Tombstone appearance of clinging basal keratinocytes

Alendronate: severe injury, may completely desquamate


Alendronate: extensive necrosis

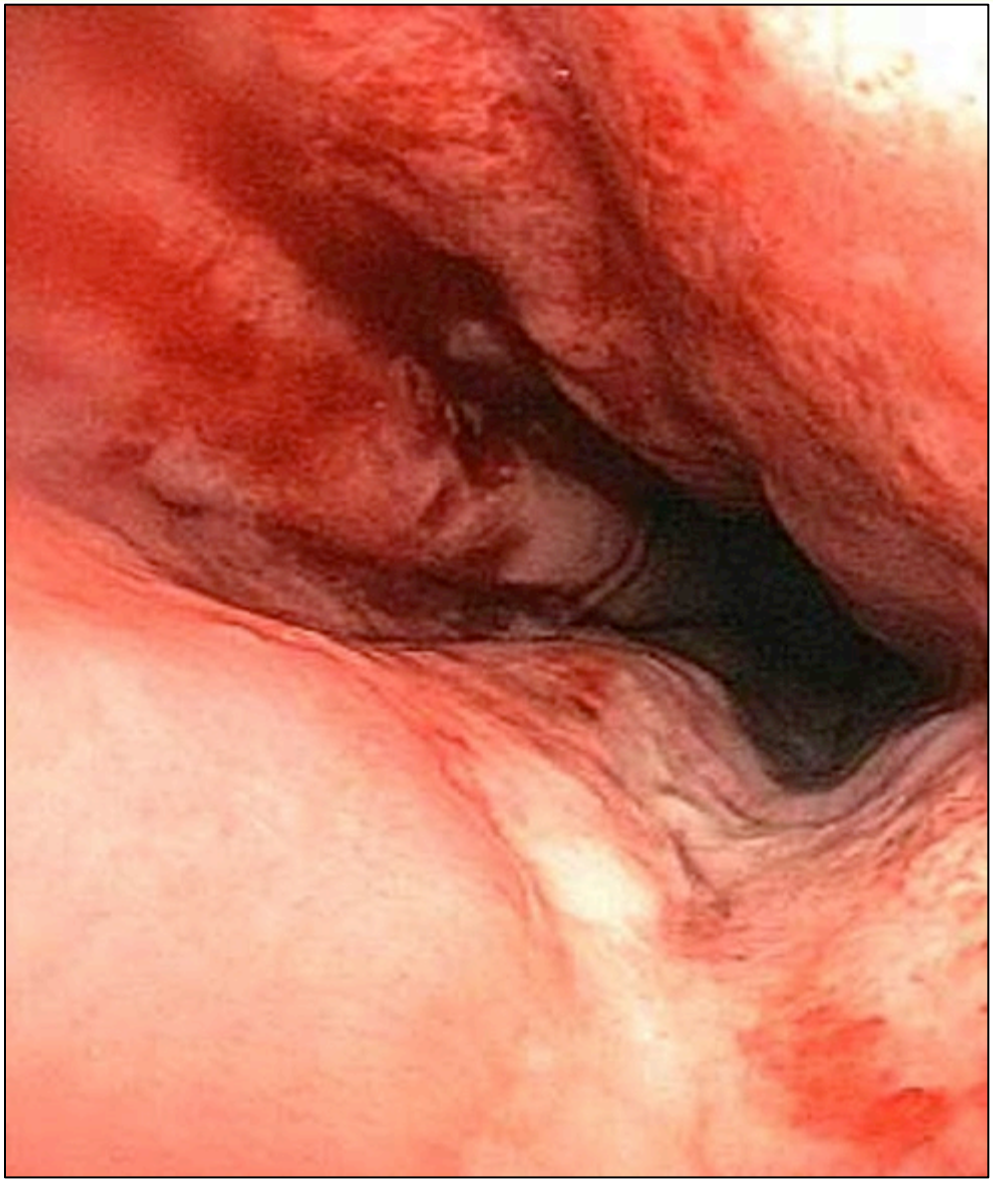
THERE ARE MANY MIMICS OF SLOUGHING ESOPHAGITIS….THE HISTOLOGIC DIAGNOSIS REQUIRES CLINICOPATHOLOGIC CORRELATION

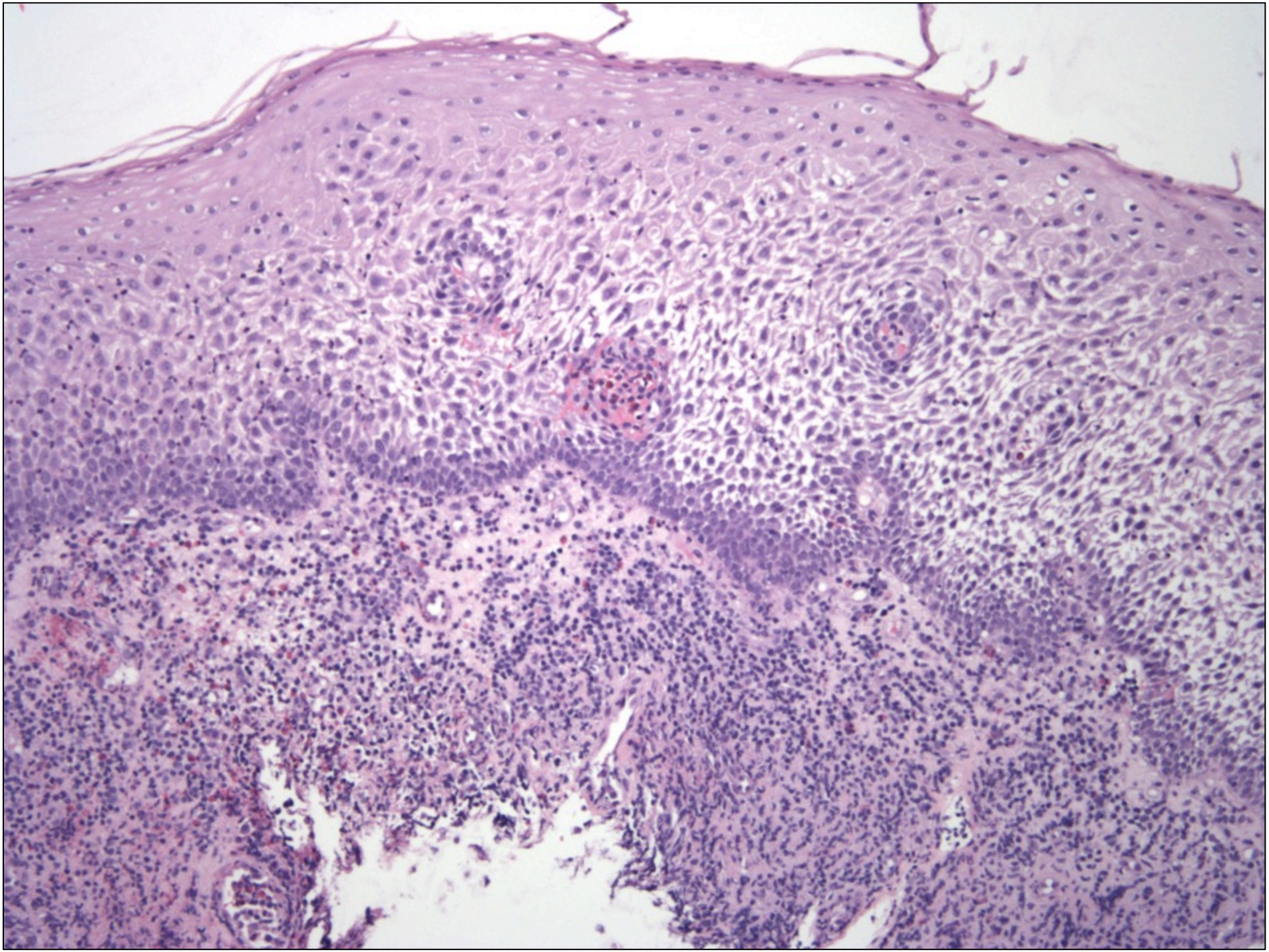
ESOPHAGITIS DISSECANS SUPERFICIALIS DIAGNOSTIC CRITERIA

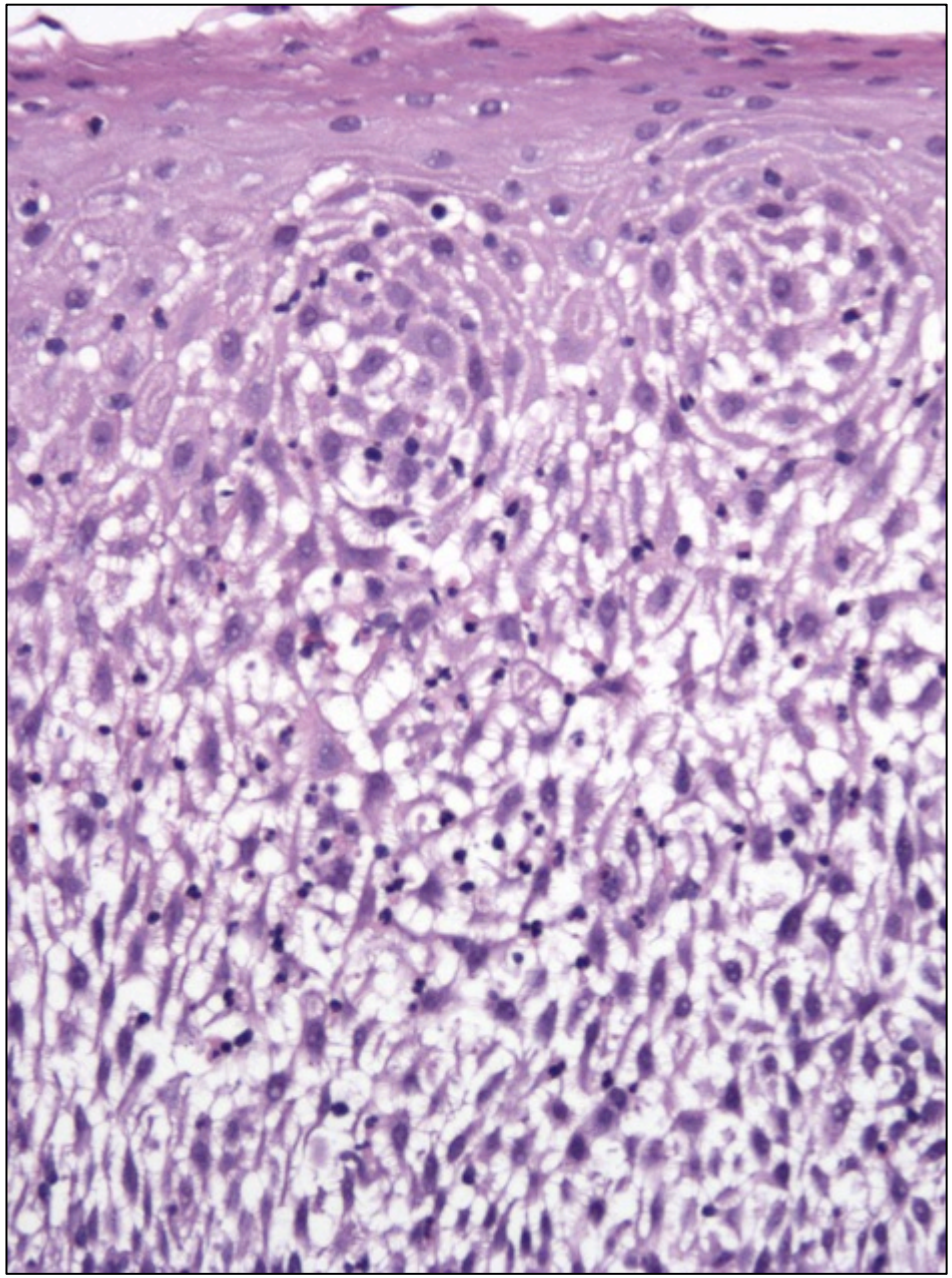
- I generally don't make this diagnosis unless
  - There is two-toned parakeratosis with necrosis of superficial layer
  - The epithelium under parakeratosis is normal
  - The clinical picture fits
    - Endoscopy shows diffuse desquamation with normal underlying mucosa
  - Other etiologies are excluded
    - Radiation
    - Graft versus host disease
    - Bullous disorders
    - Drugs (bisphosphonates)

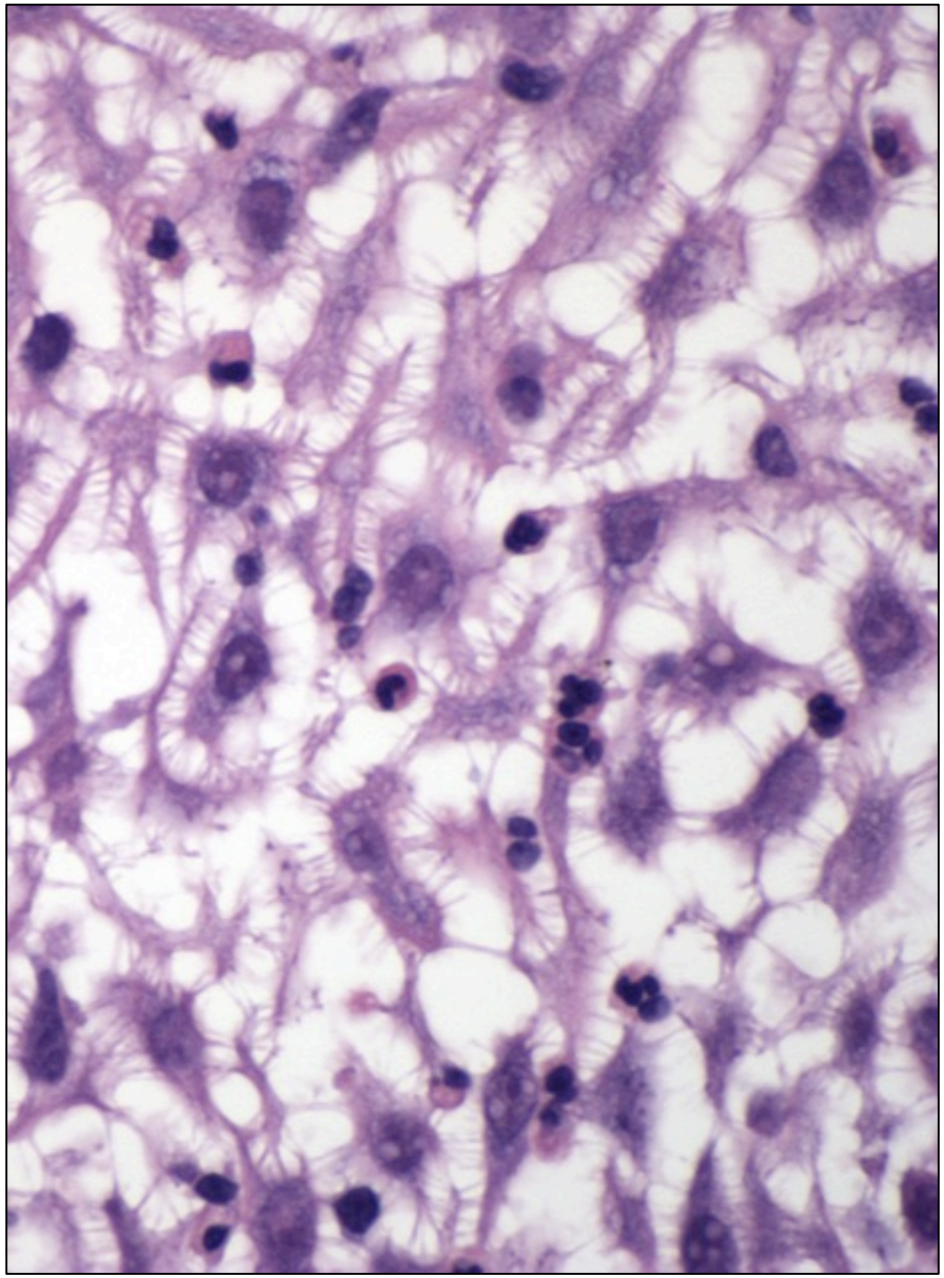
CASE

- 30-year old woman with odynophagia
- Otherwise well





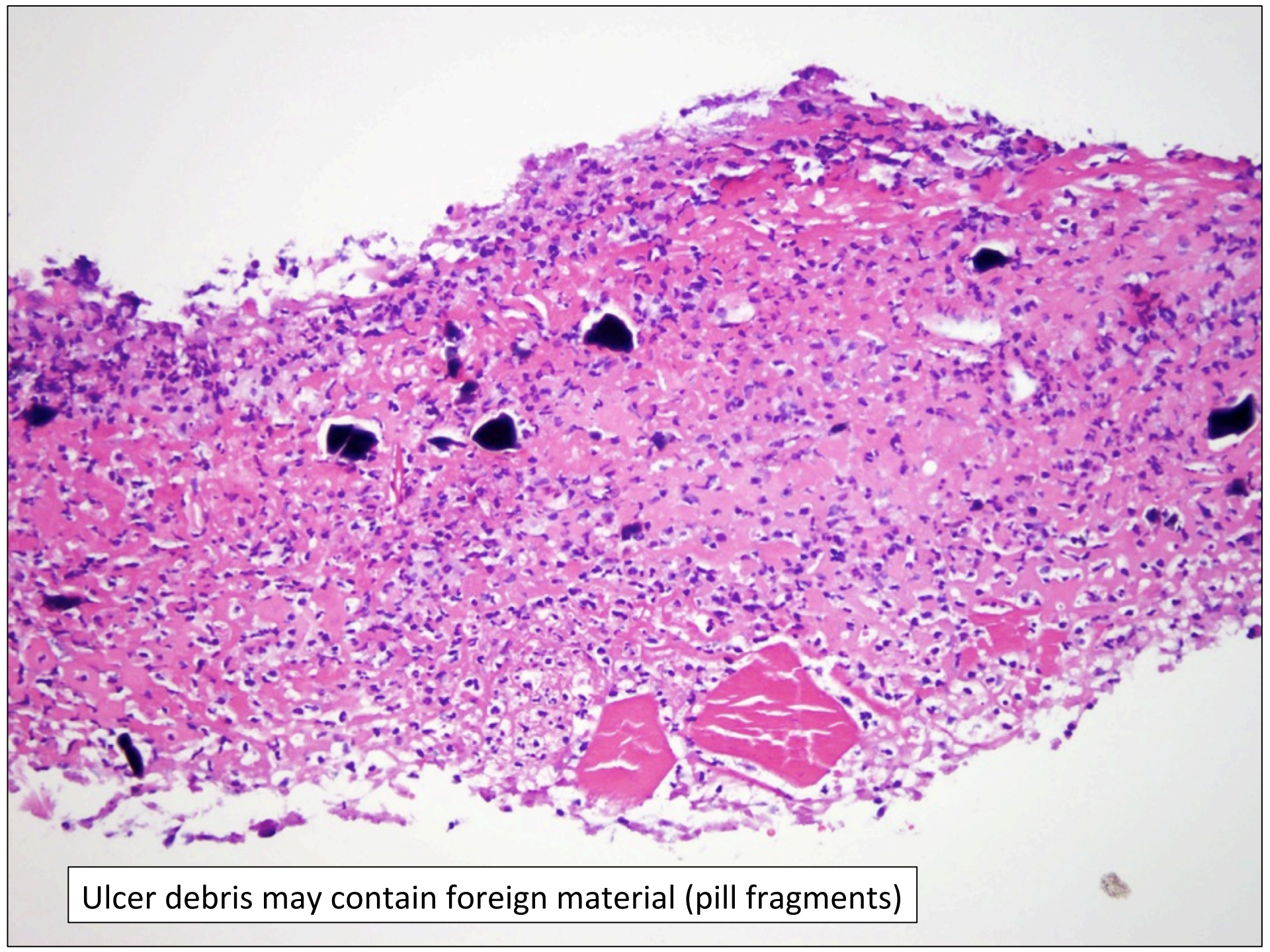


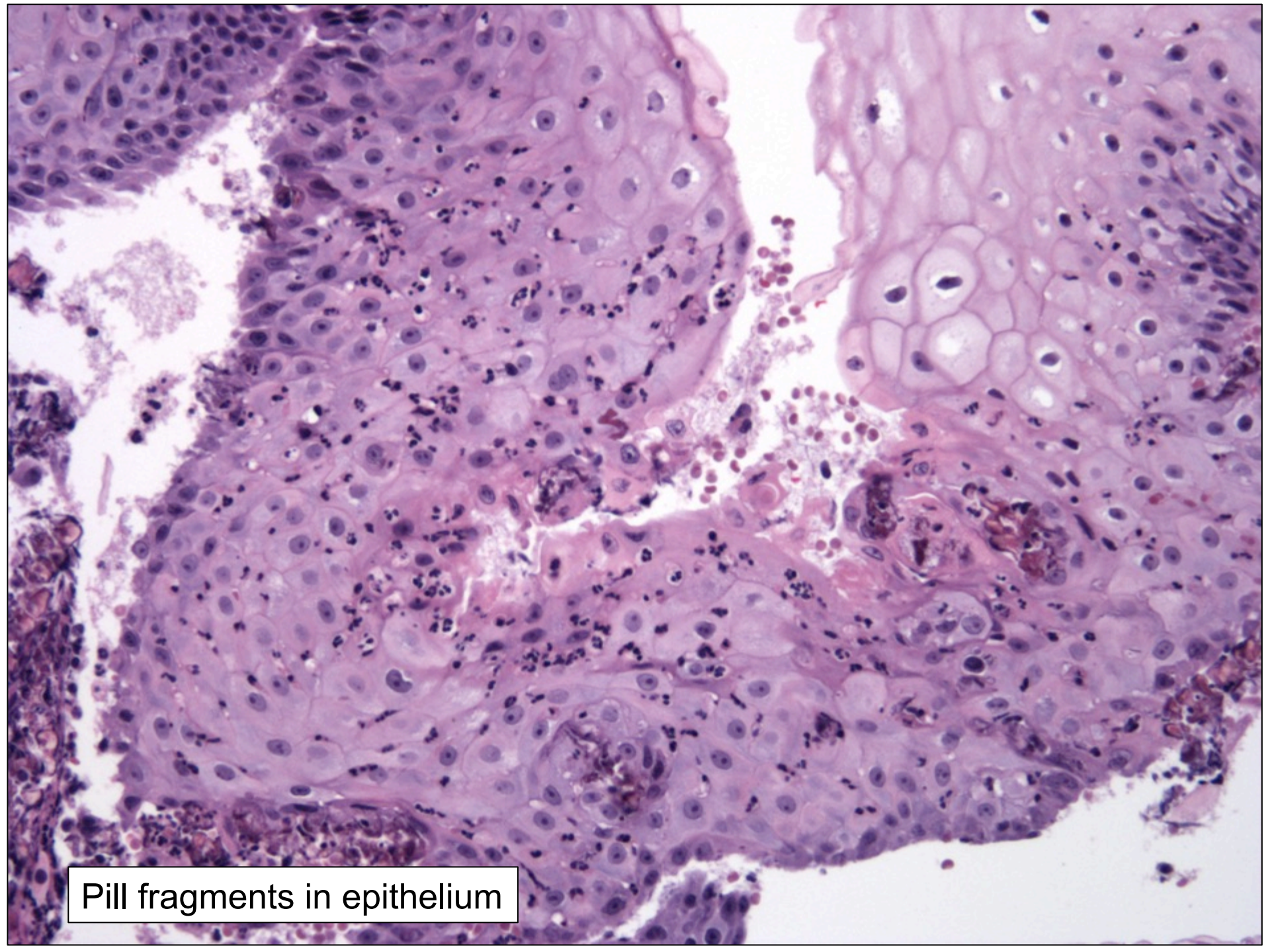


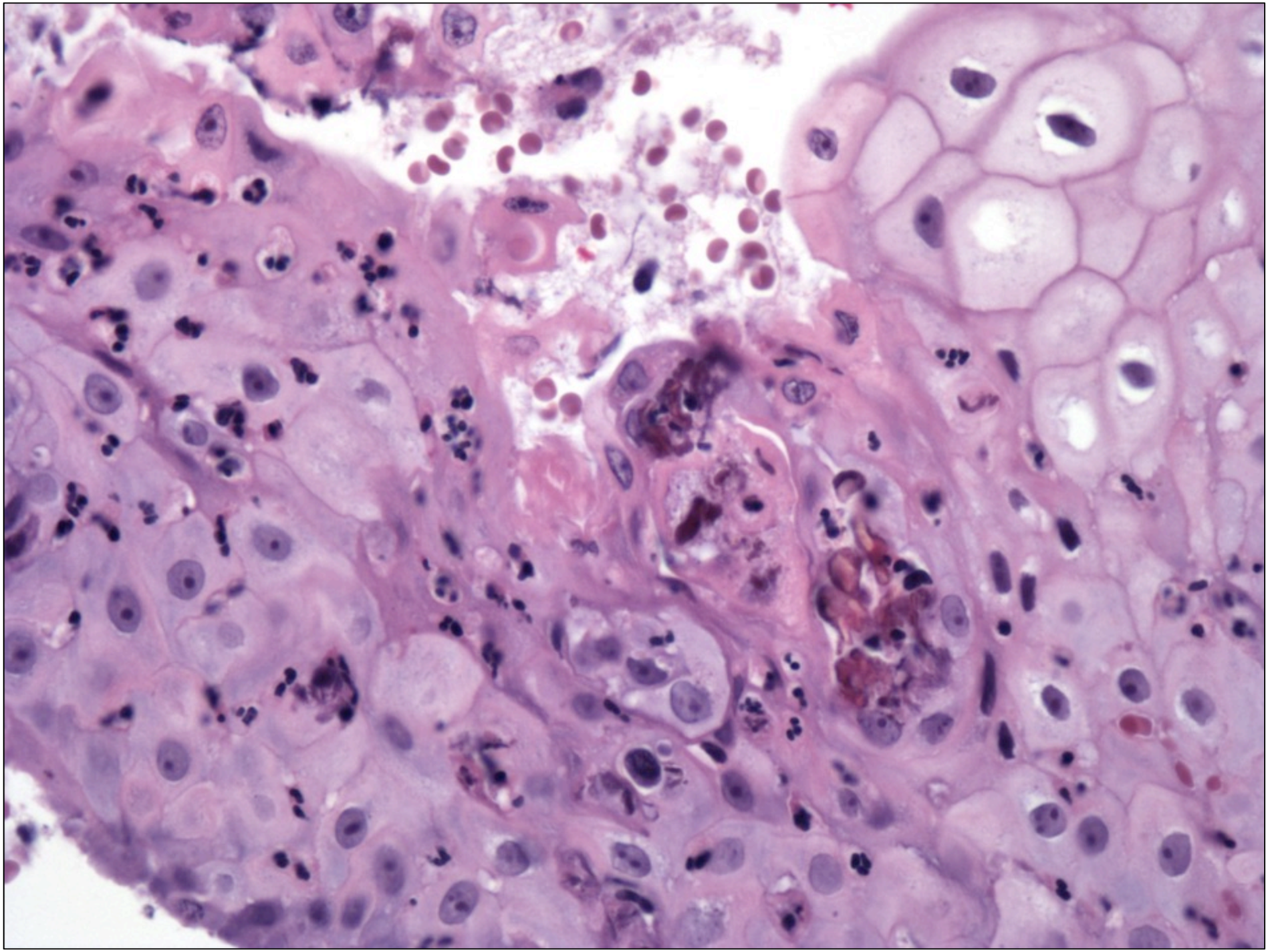
Patient was receiving doxycycline for acne treatment

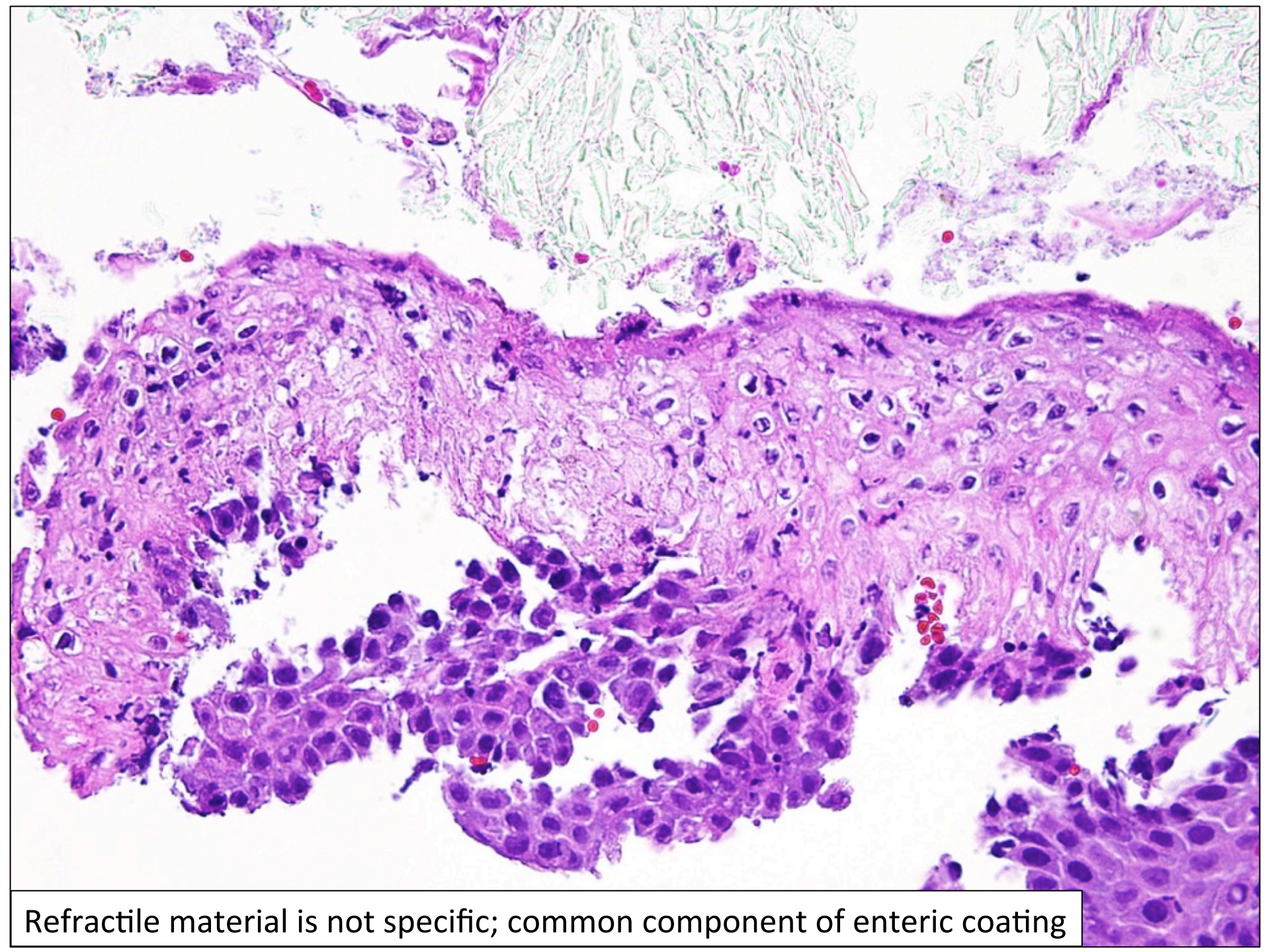
PILL ESOPHAGITIS

- More common among older patients
- Sites of luminal narrowing (GE junction, extrinsic compression)
- Many medications can cause injury, but the big offenders are
  - Tetracyclines (treatment of acne)
    - Tetracycline, doxycycline, minocycline, oxytetracycline
  - Bisphosphonates (alendronate)
  - Iron
  - Kayexelate

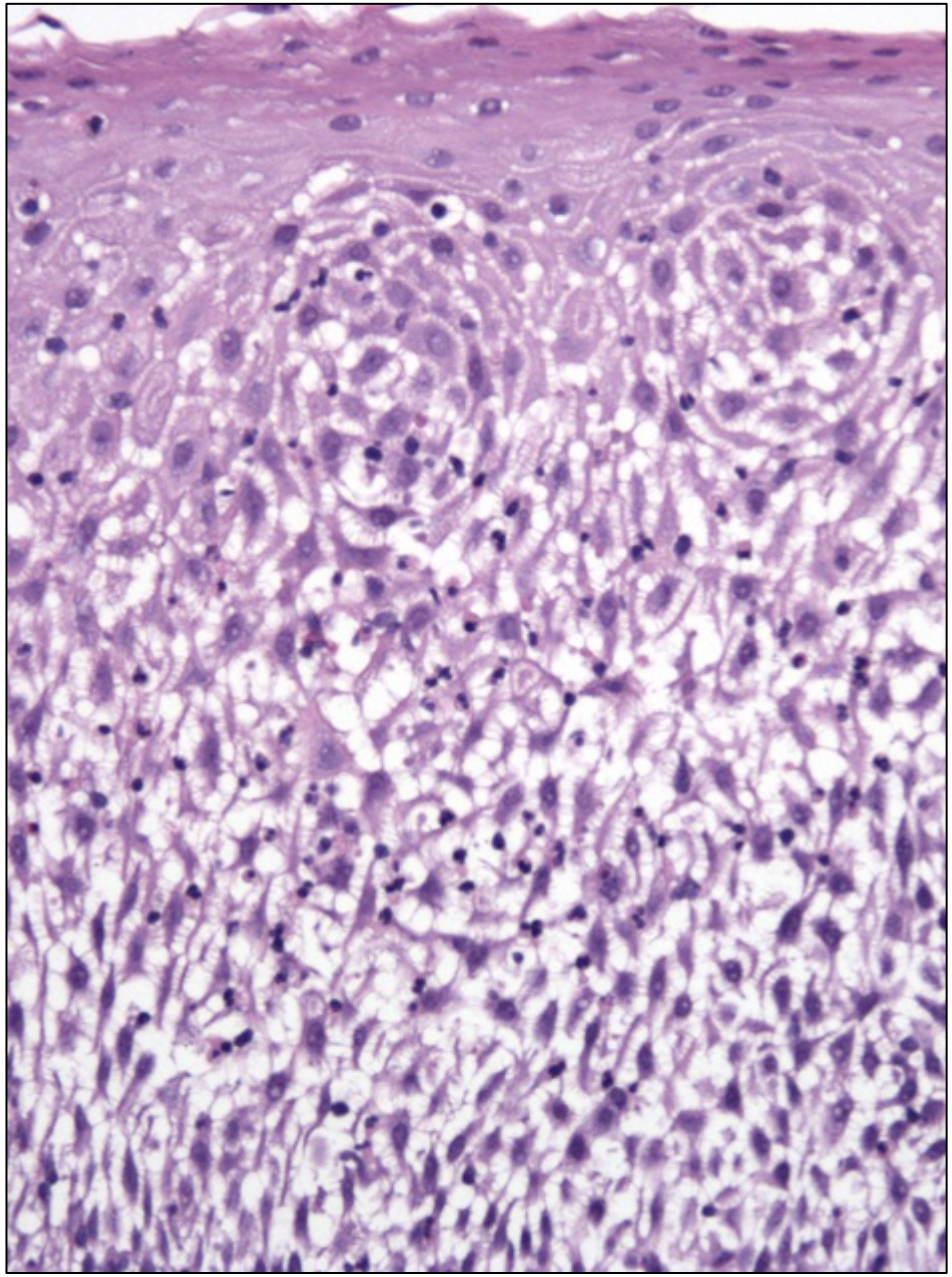

Ulcer debris may contain foreign material (pill fragments)

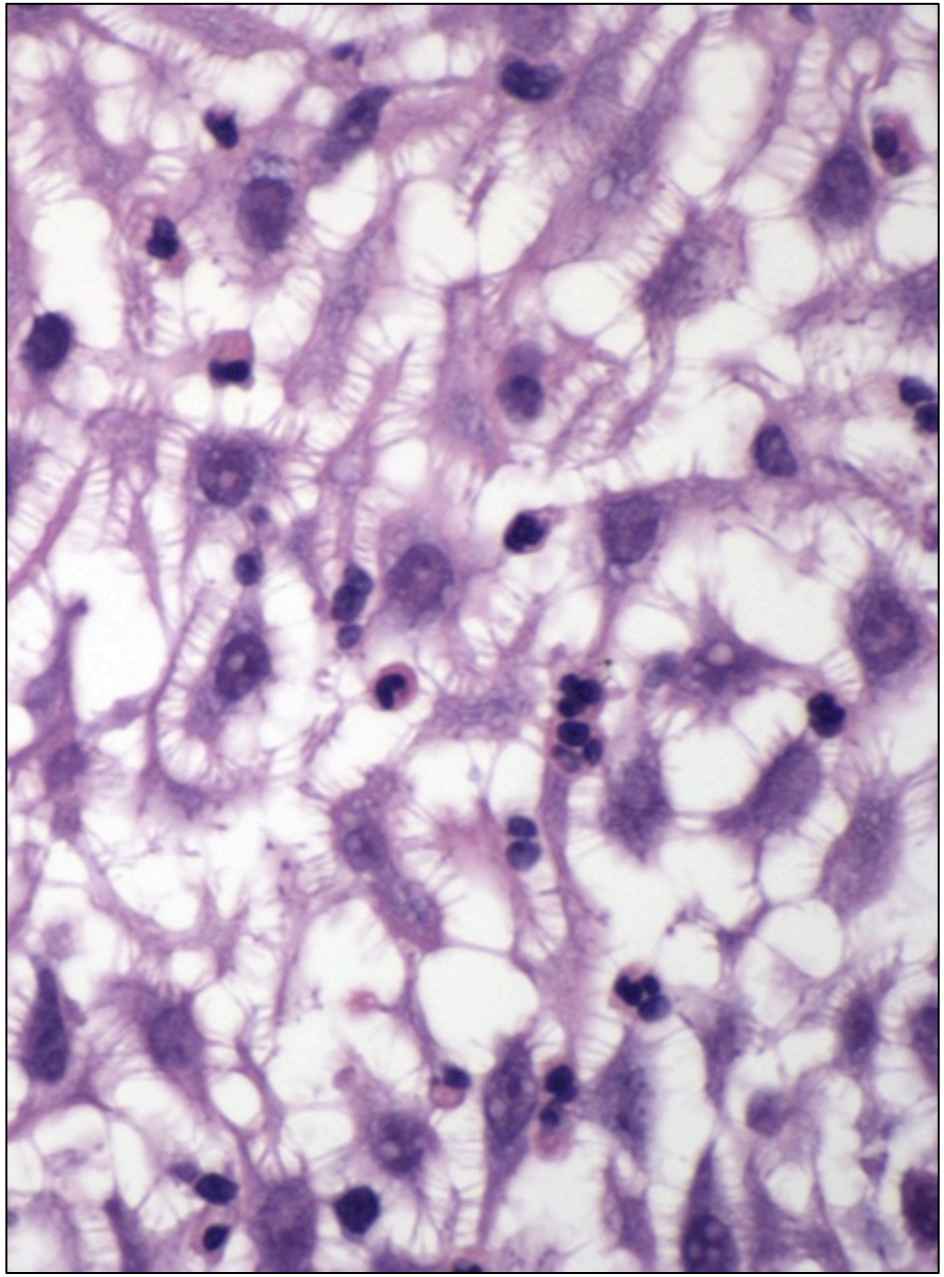

Pill fragments in epithelium



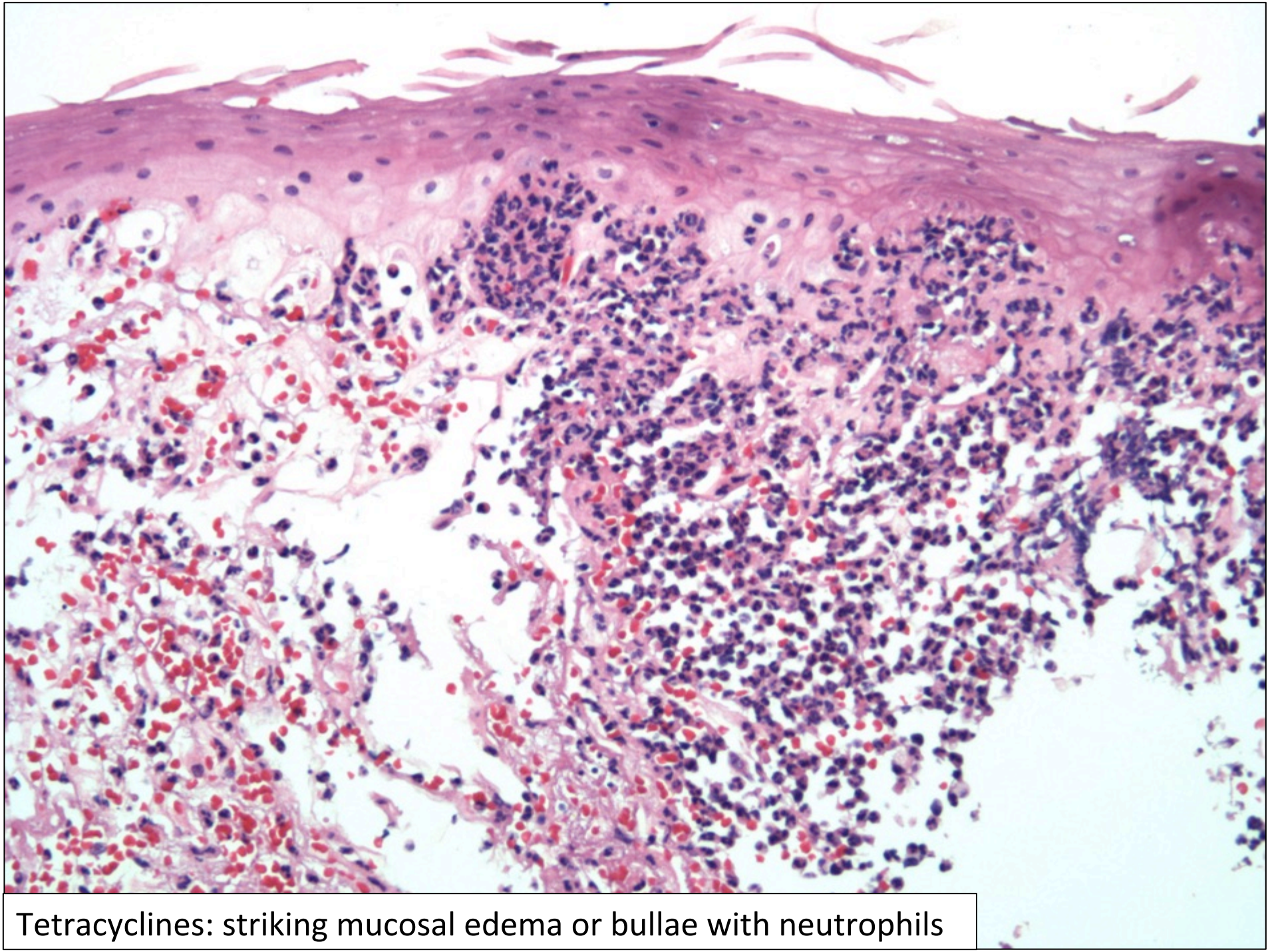


Refractile material is not specific; common component of enteric coating

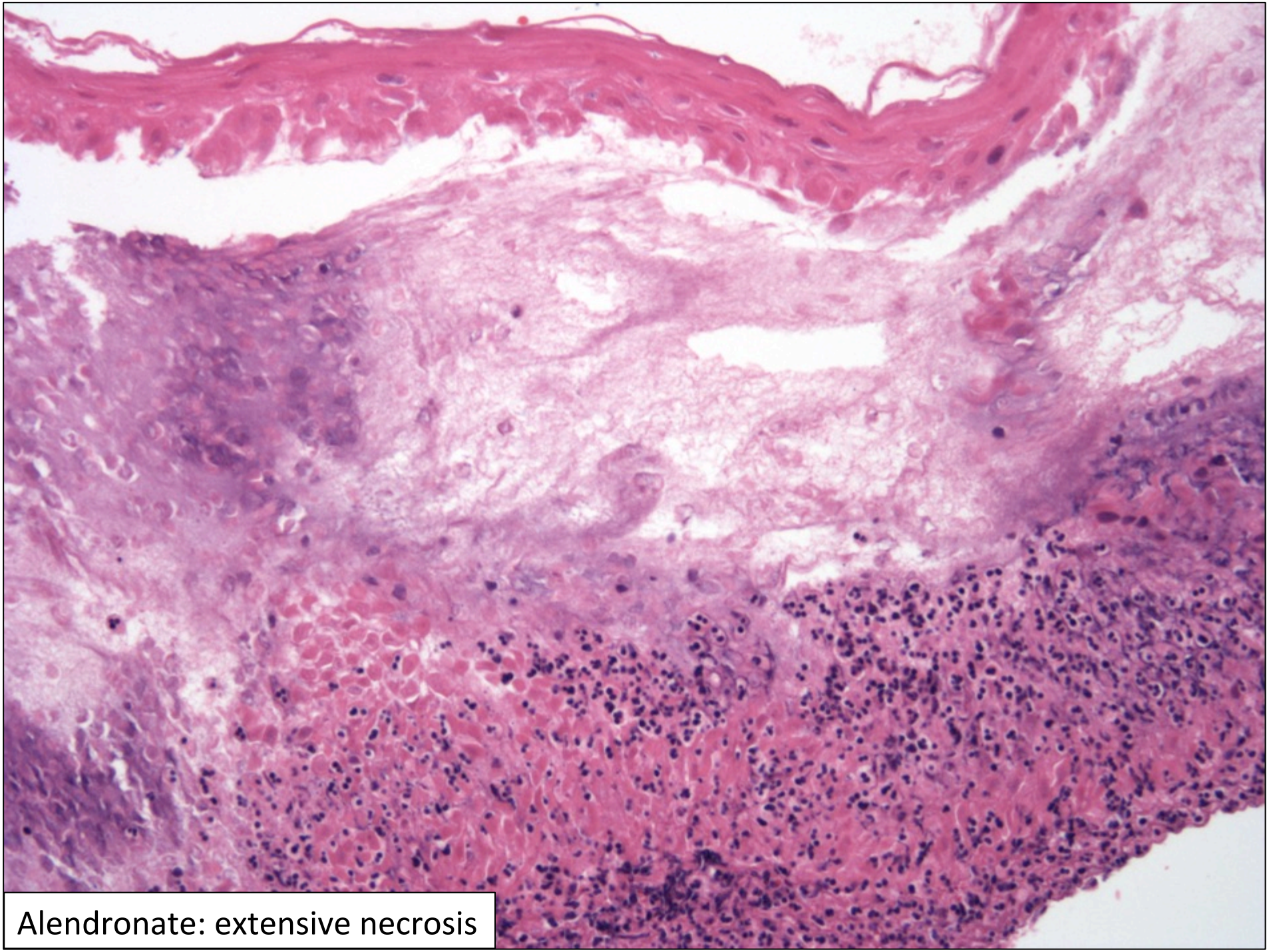


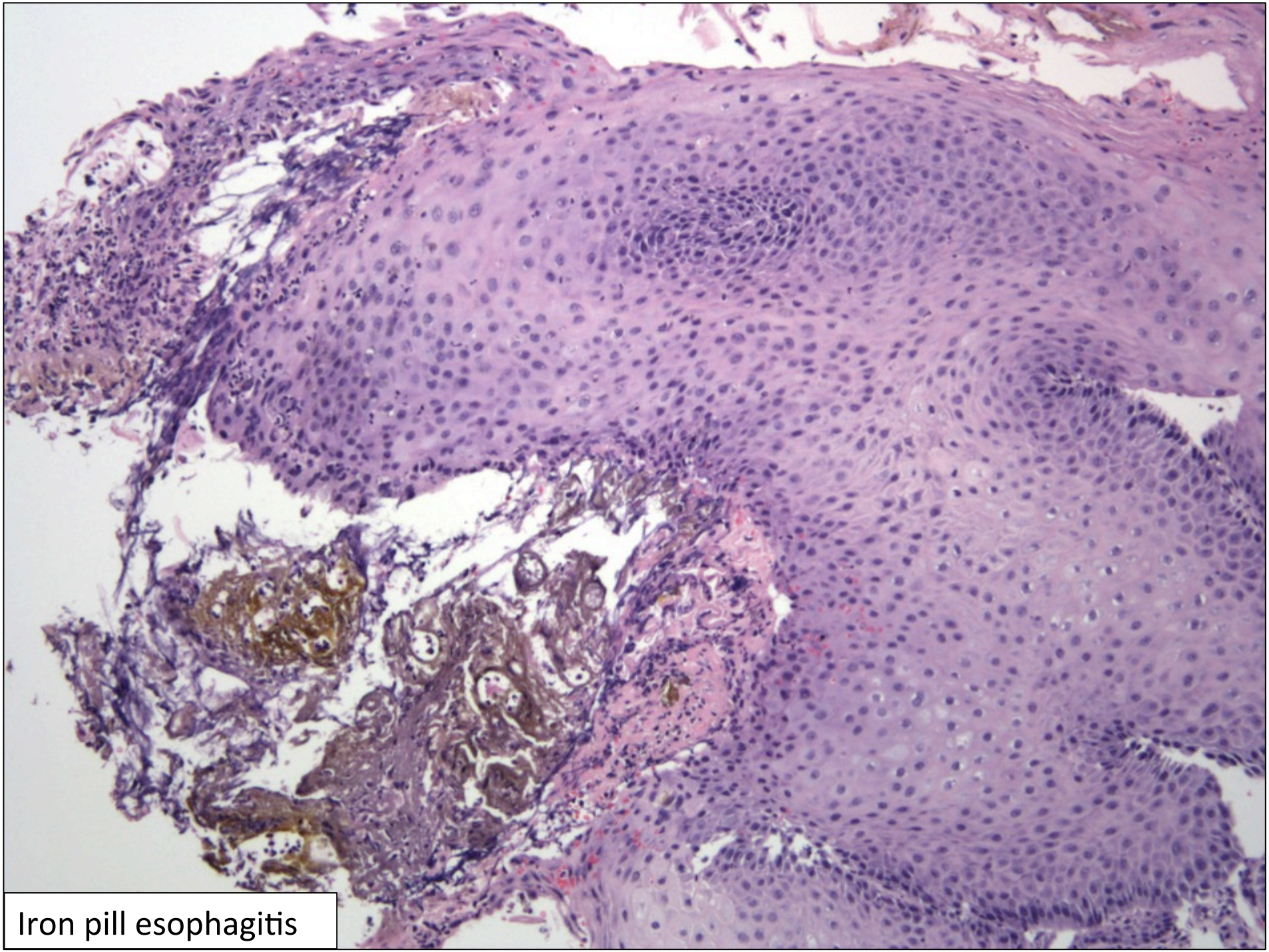


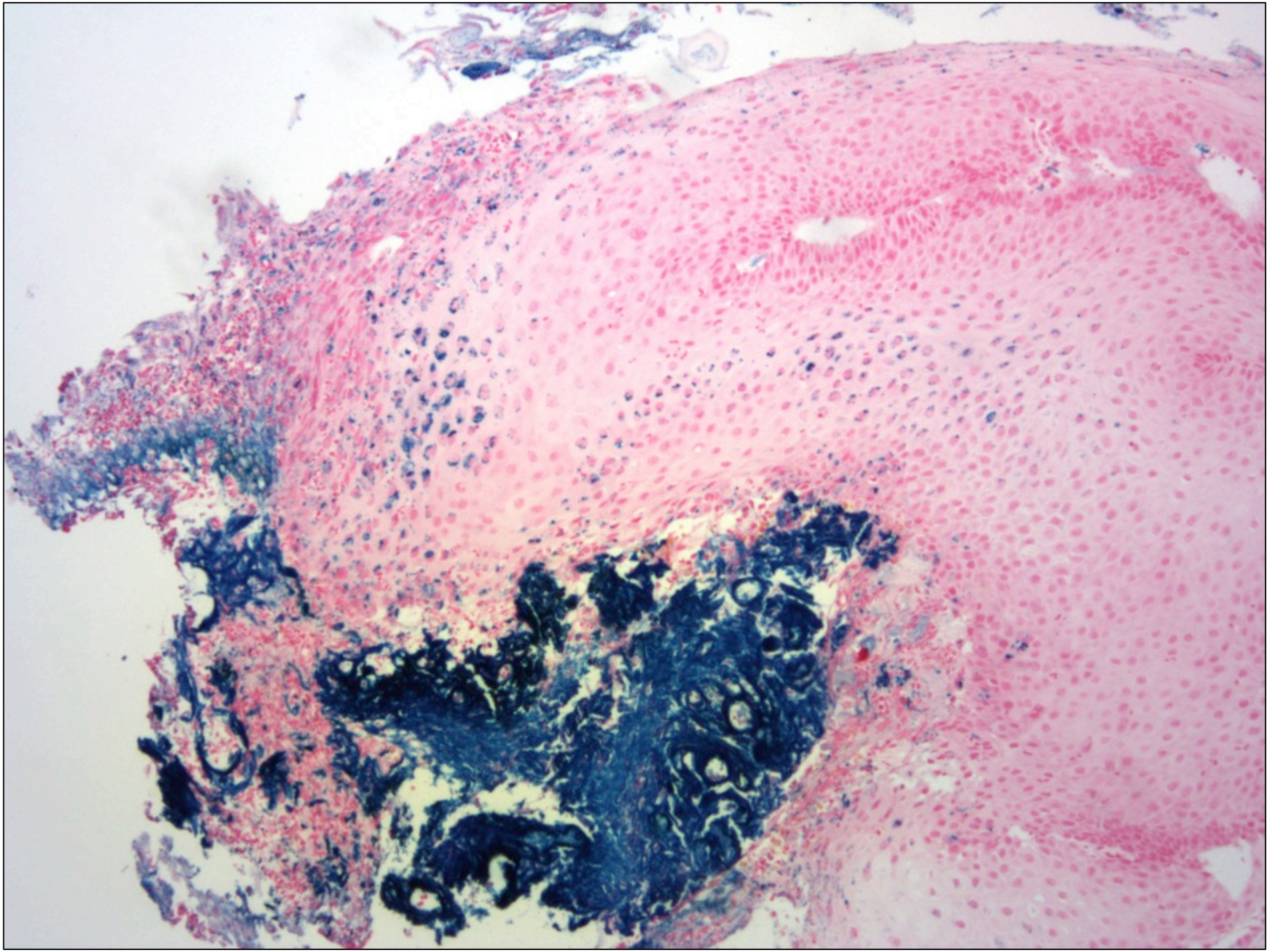
Tetracyclines: striking mucosal edema or bullae with neutrophils

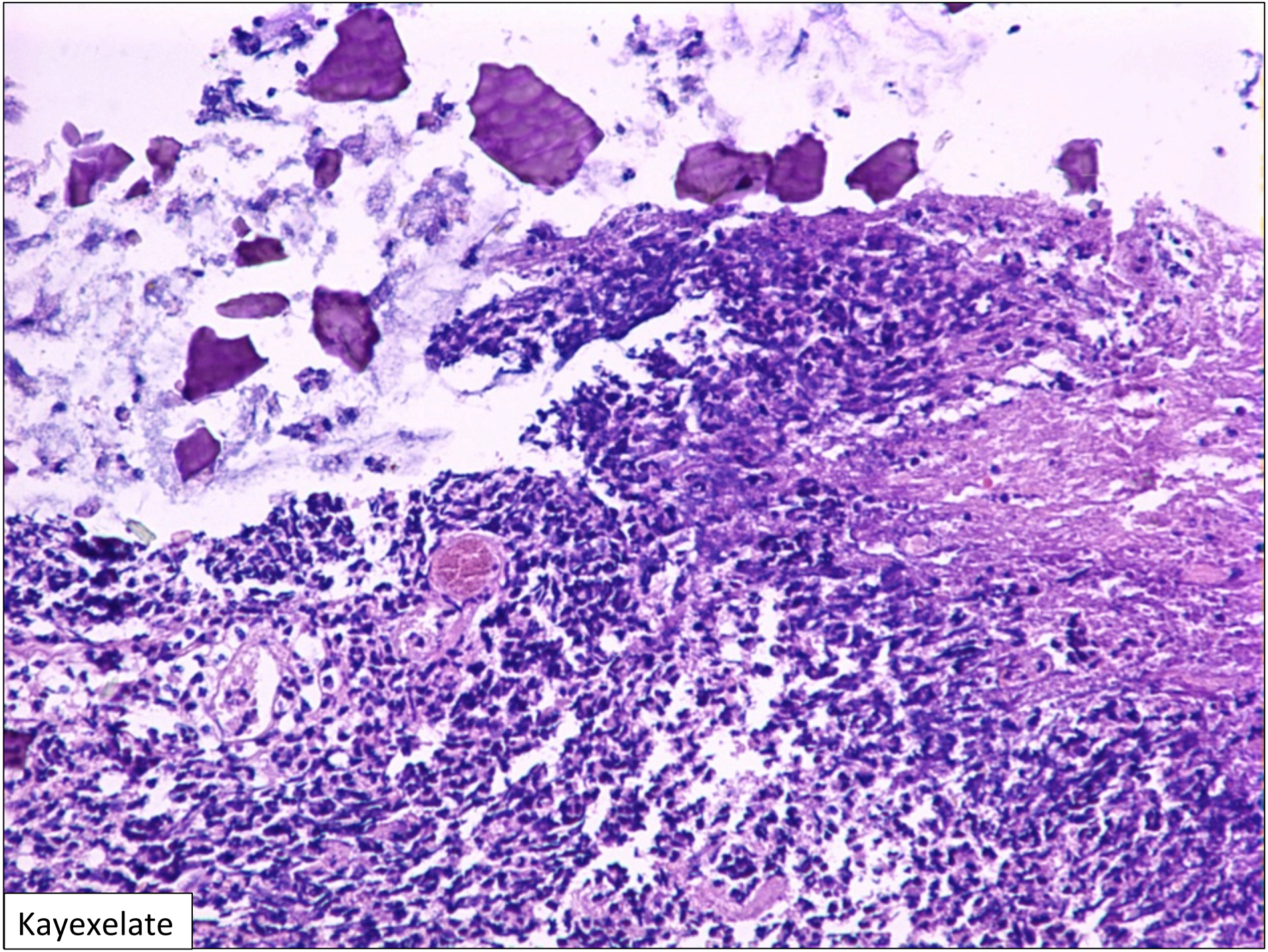


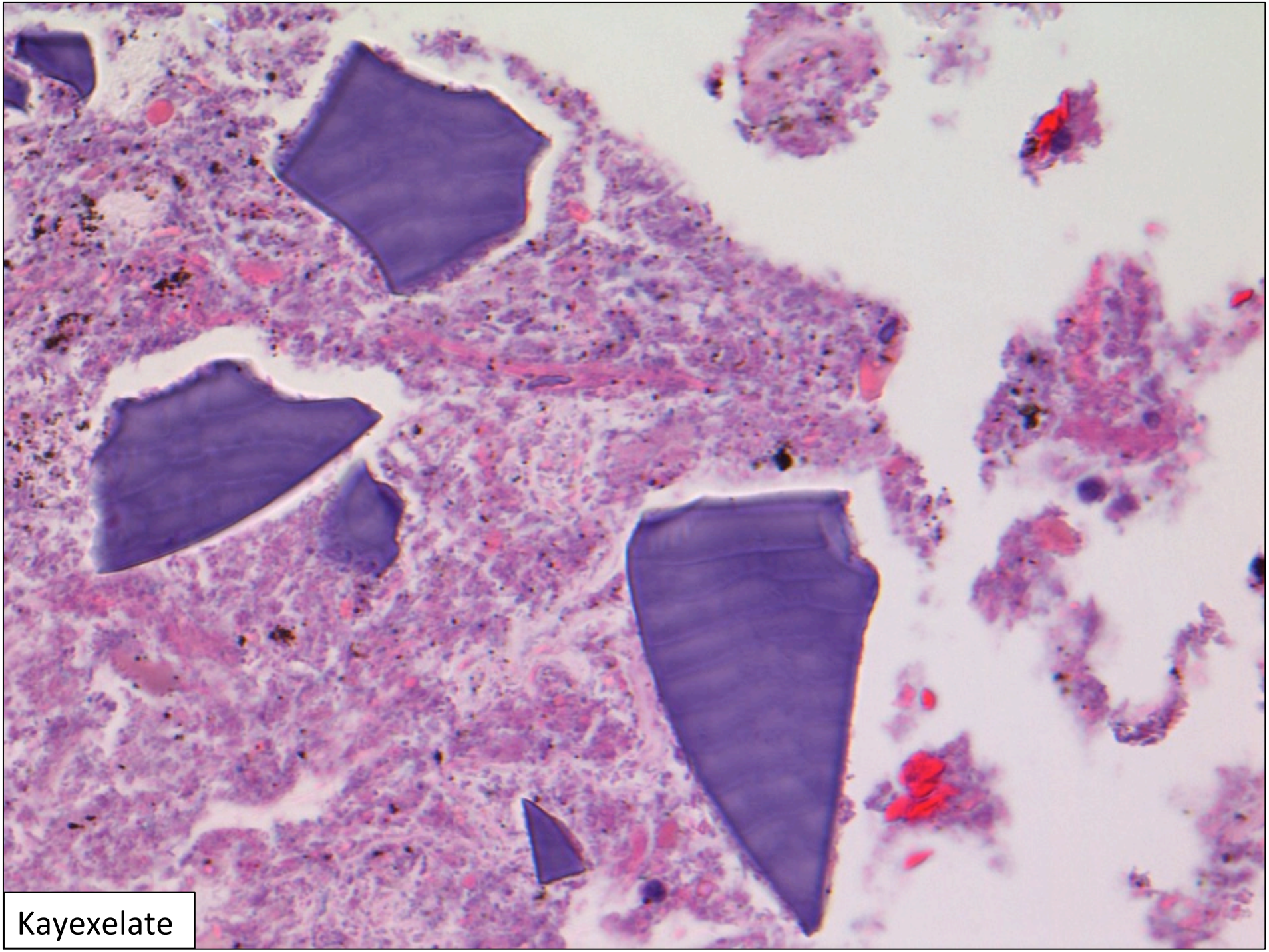
Tetracyclines: striking mucosal edema or bullae with neutrophils

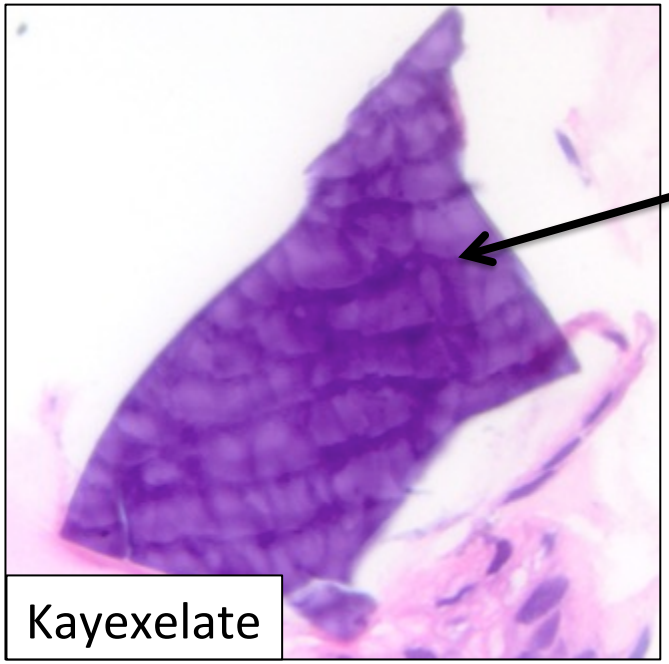

Alendronate: extensive necrosis


Iron pill esophagitis




Kayexelate

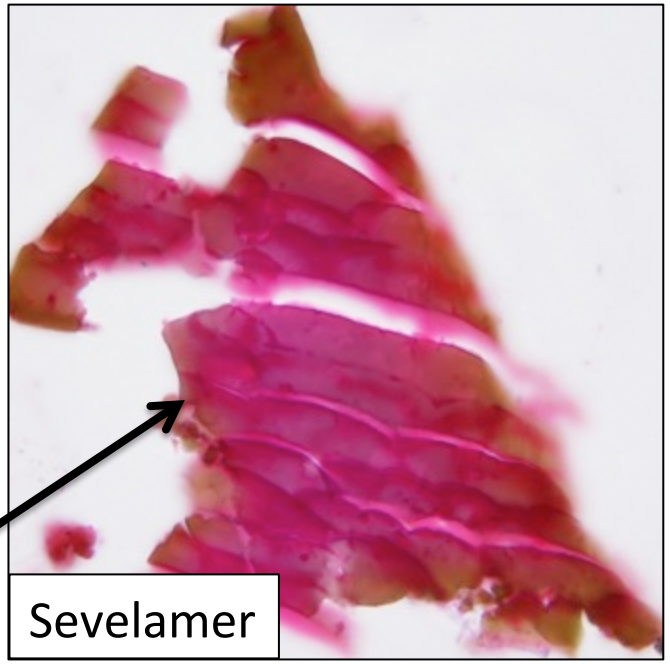

Kayexelate



Kayexelate

"Fish scales"
Purple, jagged

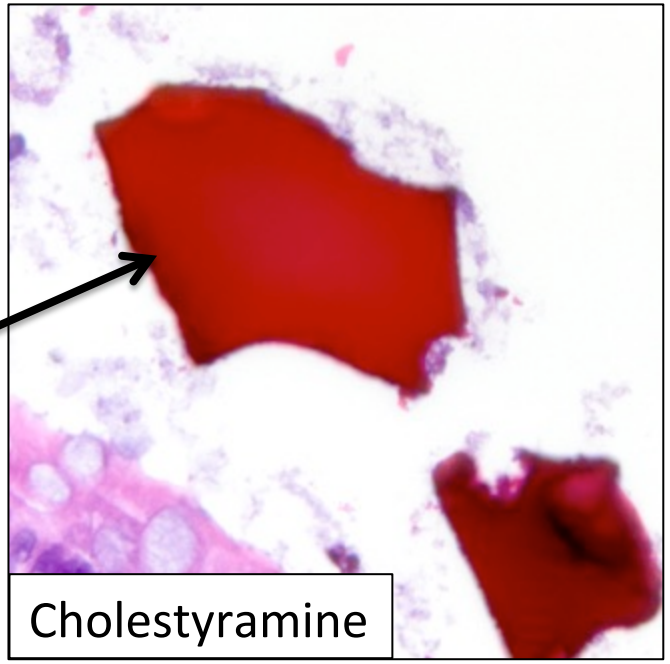
Pink with yellow edge
"two-toned"
Cracked scales



Sevelamer

None of these

Bright red, purple
No internal structure



Cholestyramine

MEDICATION-RELATED ESOPHAGEAL INJURY

- Consider a drug injury when
  - Foreign material is embedded in inflammatory foci (recognize kayexelate and iron)
  - Mucosal necrosis
  - “Bottom heavy” pattern of injury with edema and inflammation (neutrophils)
  - Disease is discontinuous with gastroesophageal junction
  - Ulcers in mid/upper esophagus

LESS COMMON CAUSES OF ESOPHAGITIS TAKE HOME POINTS

- Diverse types of injury can produce similar histologic changes
- Clues to classification
  - Distribution of injury in mucosa
  - Nature of inflammatory infiltrate
  - Severity of epithelial injury
- Correlation with clinical history, medication list, and endoscopy
- The best ancillary test is often a phone call