IBD: THE ROLE OF PATHOLOGY IN DIAGNOSIS AND DISEASE MONITORING

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HISTOLOGICAL EVALUATION IS PIVOTAL

1. Initial Diagnosis
   - Is this IBD of something else?
   - What else might it be?
2. Classification and Characterisation of Disease
   - Which is it, Crohn's or UC?
   - Indeterminate Colitis
   - Grading of disease (and ?prognostication)
3. Disease Monitoring
   - Effects of therapy
   - Remission and associated conundrums
   - Evaluation of dysplasia

1. Diagnosis: Is this IBD or Something Else?

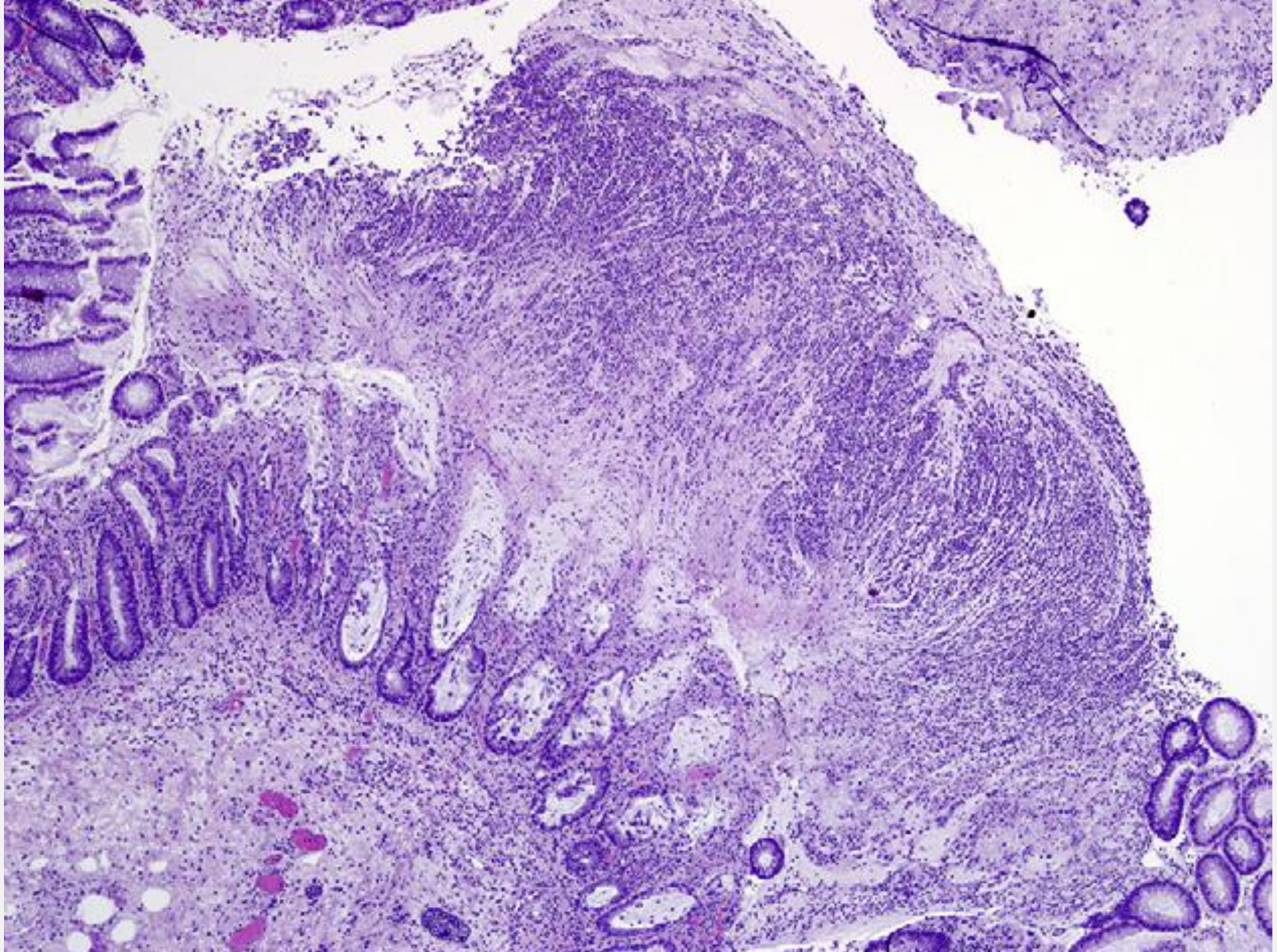
- Infectious Colitides
- Microscopic Colitis
- Degenerative (and vascular) disorders
- IBS + idiopathic disorders
- Inflammatory Bowel Disease

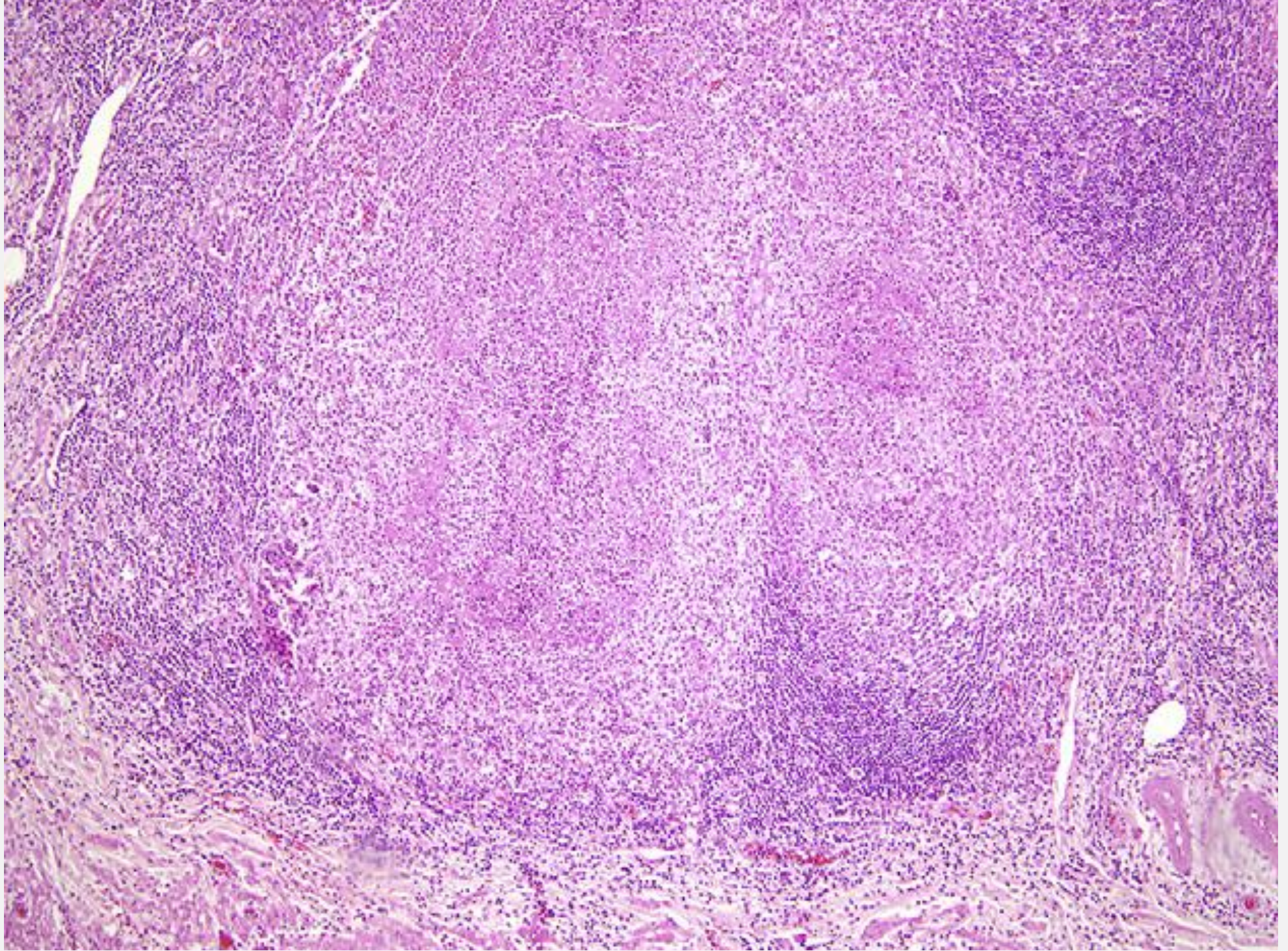
1. DIAGNOSIS: IBD Vs OTHER COLITIDES

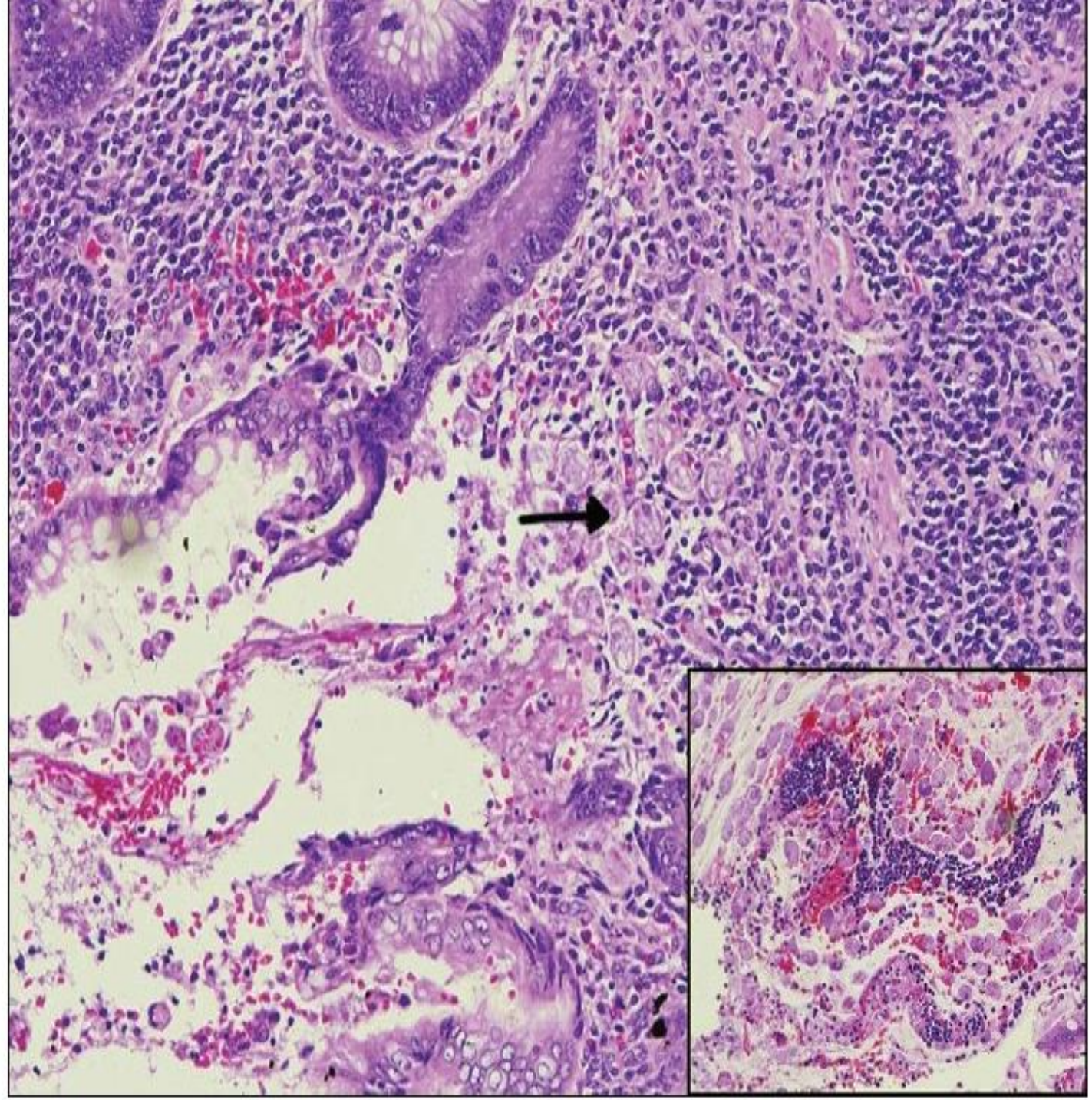
- Histological features that are most useful in separating IBD from other inflammatory processes are:
  - Crypt distortion, crypt atrophy, and basal plasmacytosis
  - Severe mononuclear cell infiltration (lymphoid follicles) and Paneth cell metaplasia distal to the splenic flexure.
  - In addition, mucosal eosinophilia is a common finding in active and quiescent disease

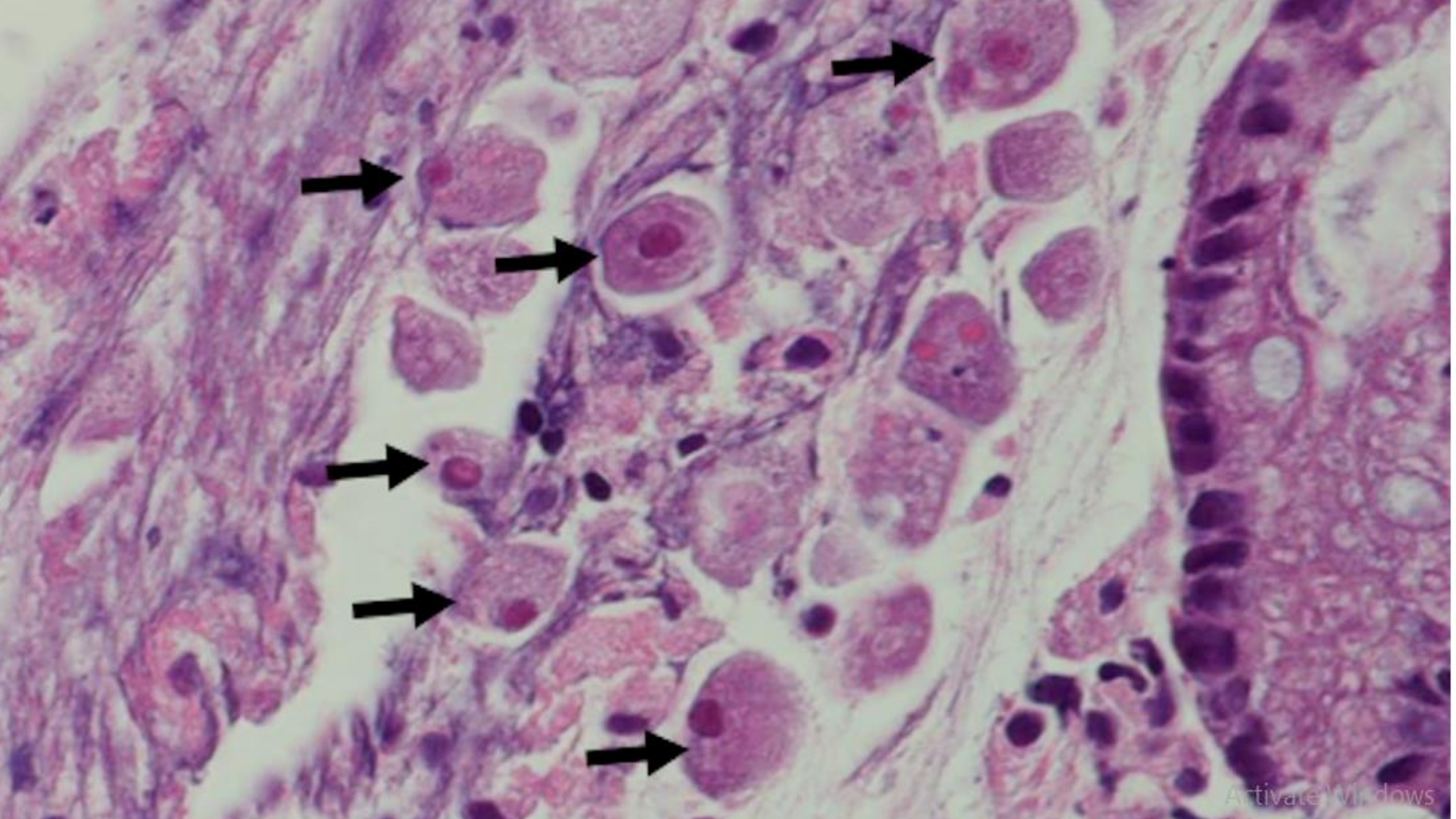
1. DIAGNOSIS: WHAT ELSE MIGHT IT BE?

- Infectious colitis, ischaemic colitis, diverticular-associated colitis, and intestinal vasculitis
- Collagenous and lymphocytic colitis may show distal Paneth cell metaplasia and basal plasmacytosis but the endoscopic exam is normal.
- Intestinal vasculitis
- Radiation Colitis









GASTROINTESTINAL TUBERCULOSIS

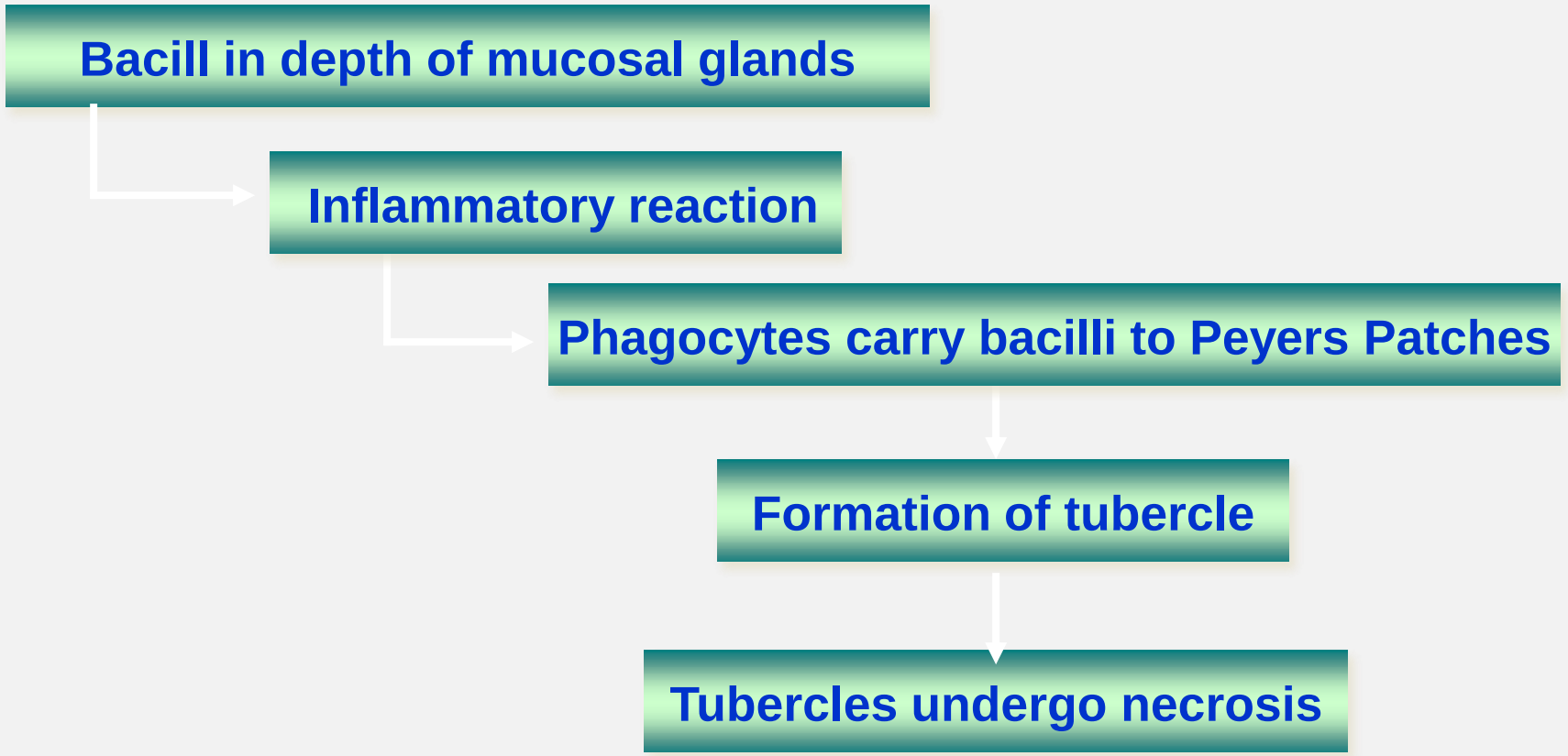
PATHOGENESIS

- *Mycobacterium tuberculosis* is the pathogen in most cases.
- *Mycobacterium bovis* in some parts of the world with no pasteurization of milk.
- *Mycobacterium avium intracellulare* has become a major pathogen in HIV patients.

(Nial et al., 1997)

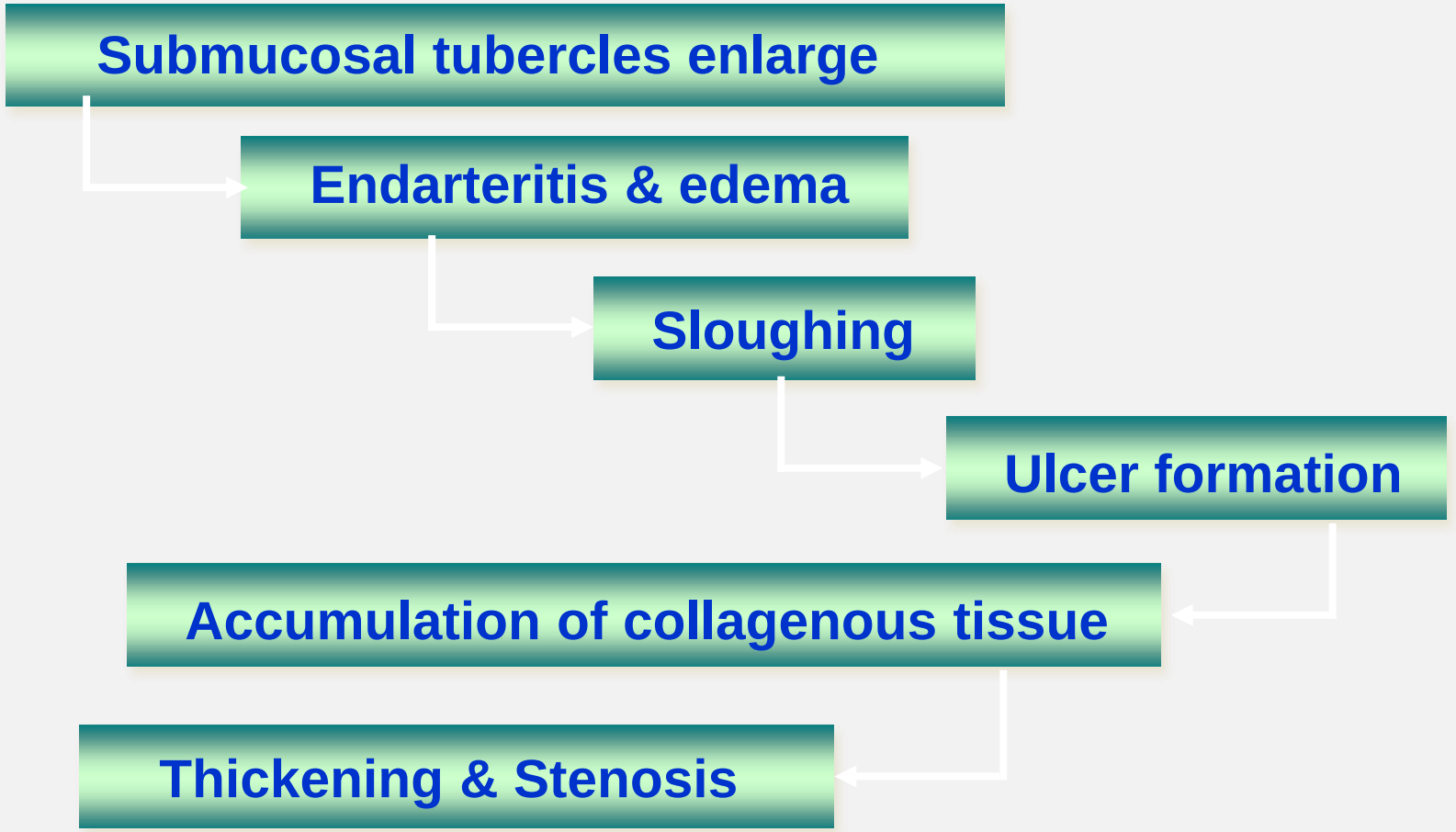
PATHOLOGY

Most active inflammation in submucosa.



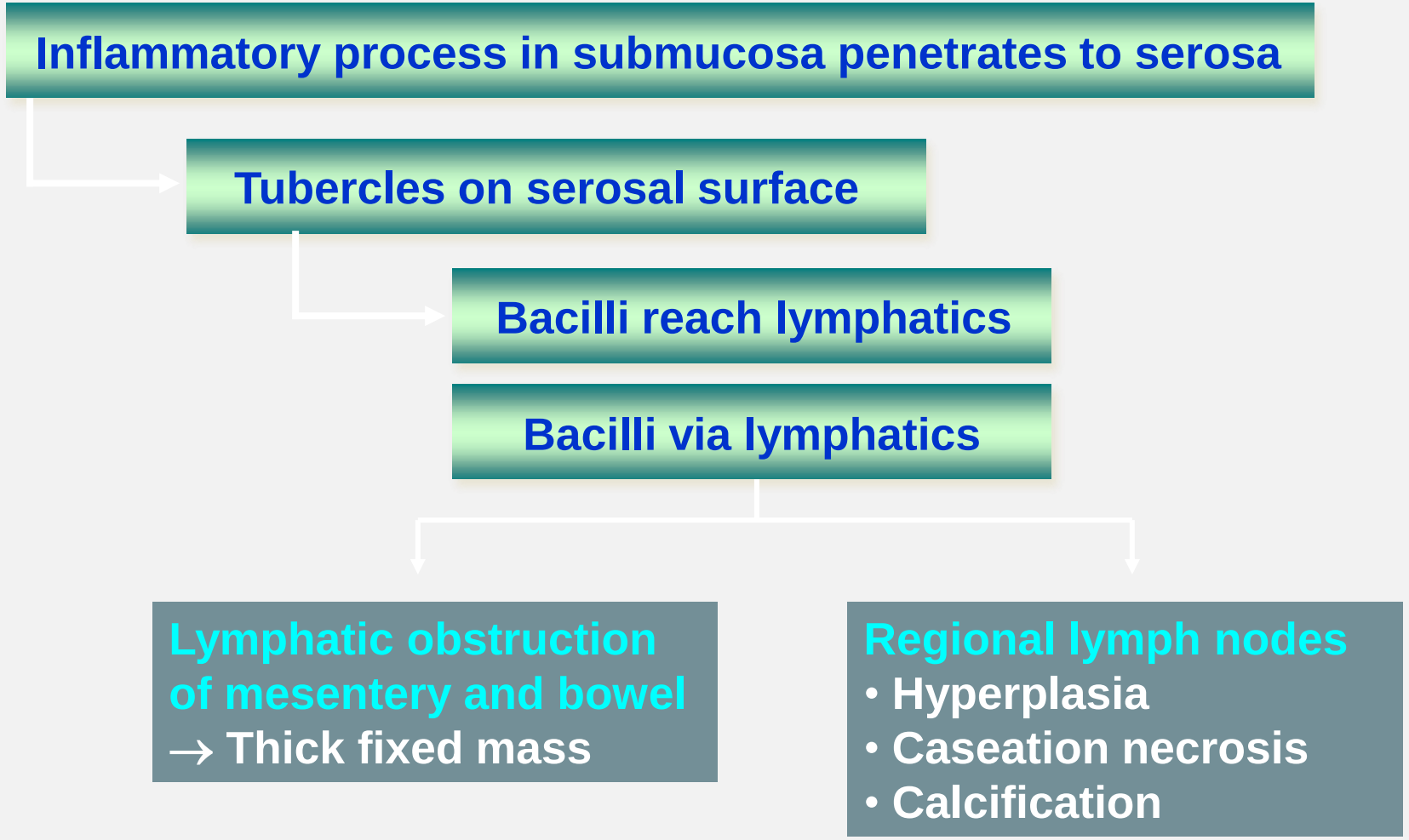
Portis (1953)

PATHOLOGY



(Howell & Knapton, 1964)

PATHOLOGY



(Boyed, 1943)

FORMS OF GI TB

Ulceroconstrictive

60% of patients

Highly virulent

Mostly small Intestinal

Hypertrophic

10% of patients

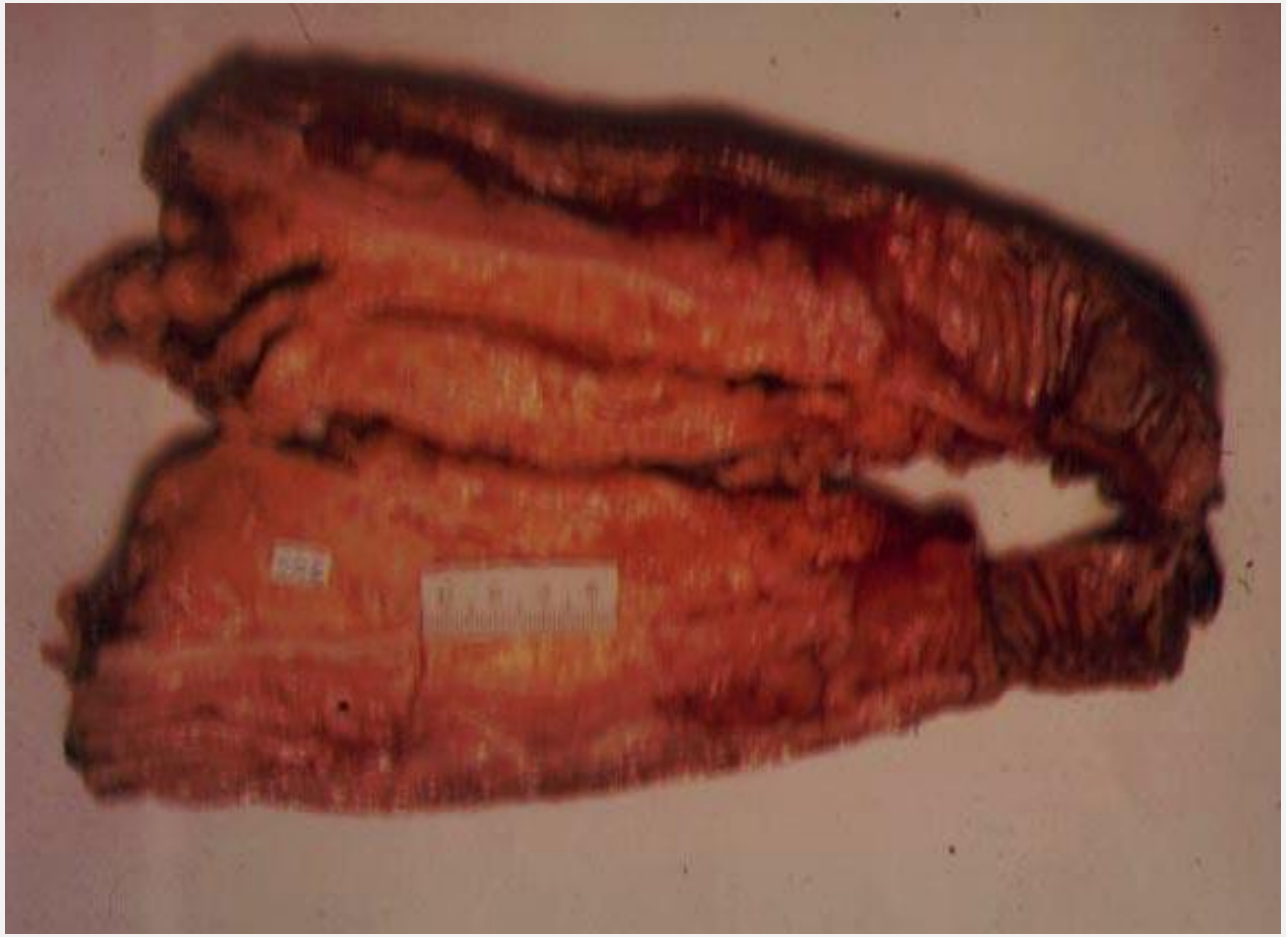
Chronic

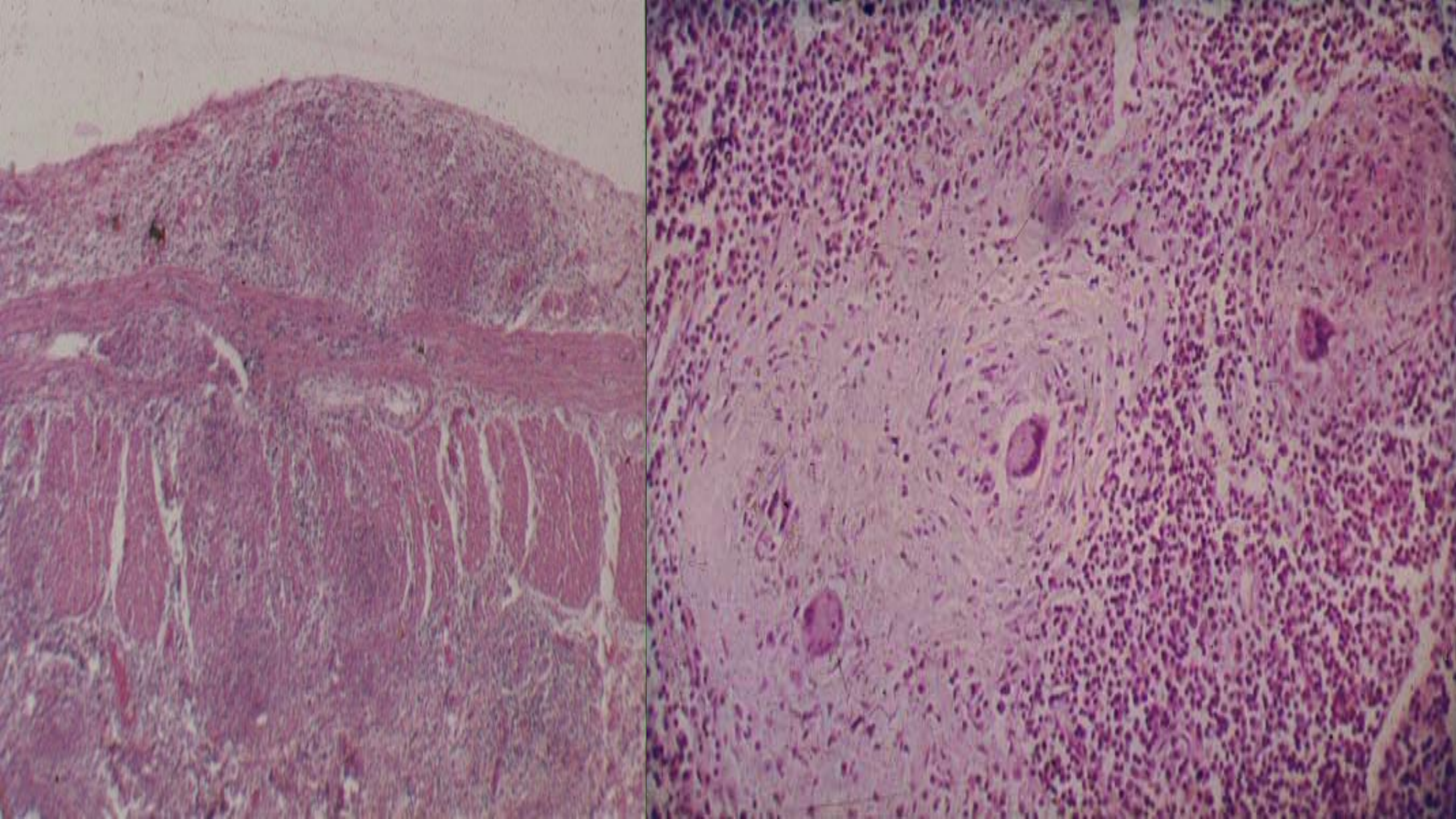
Mostly Ileocoecal

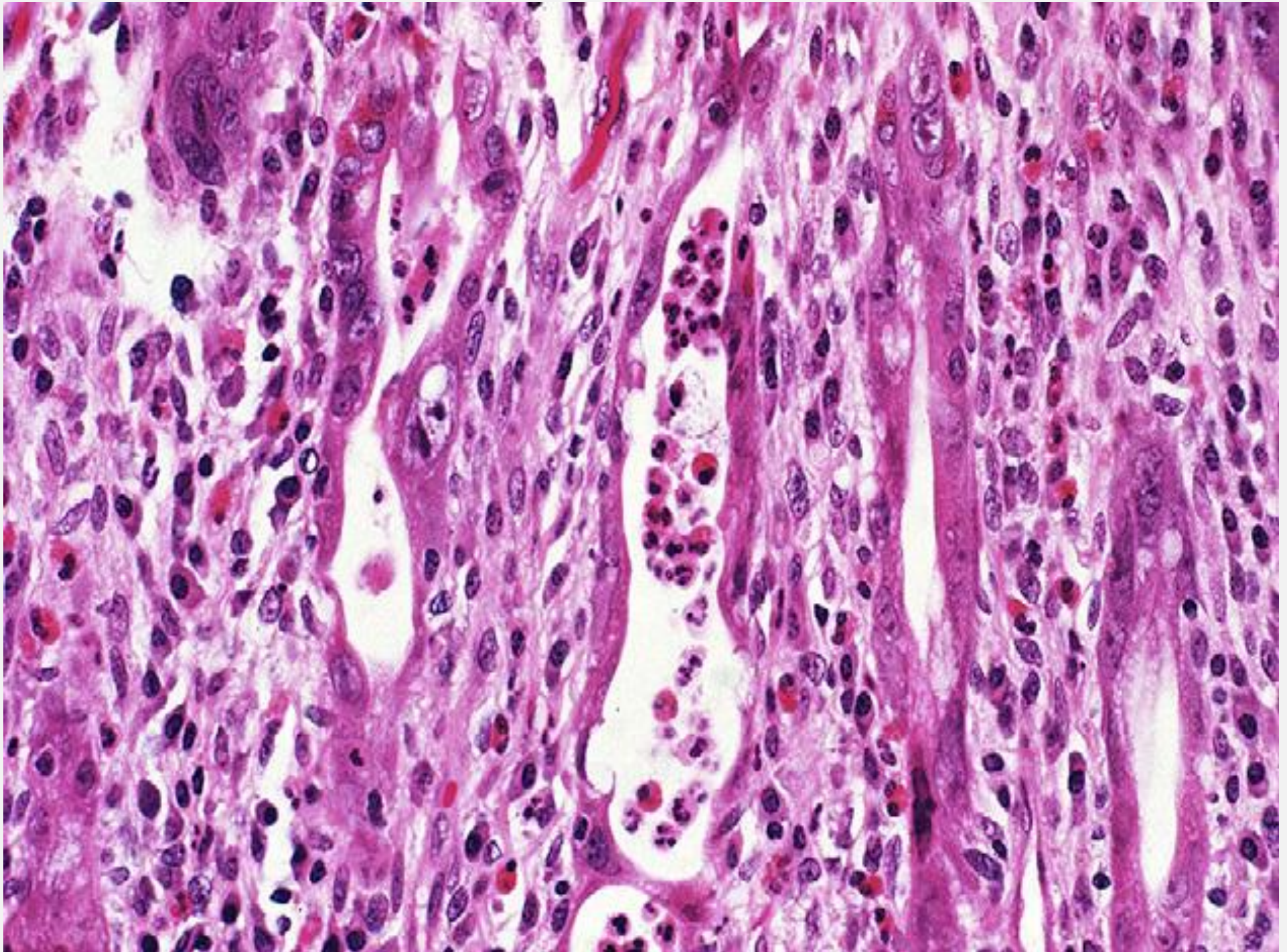
Mixed

30% of patients

(Howell & Knapton, 1964)

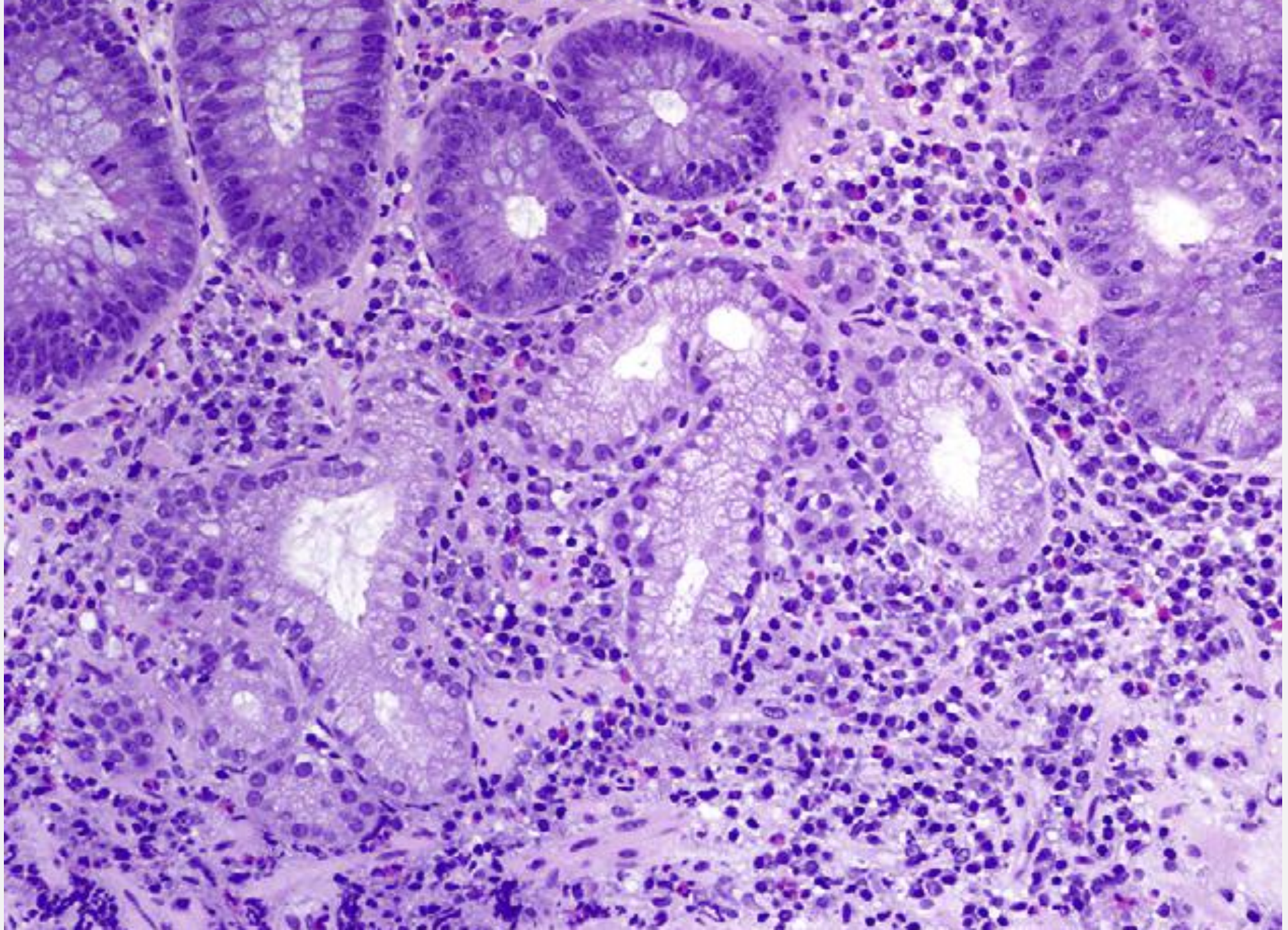


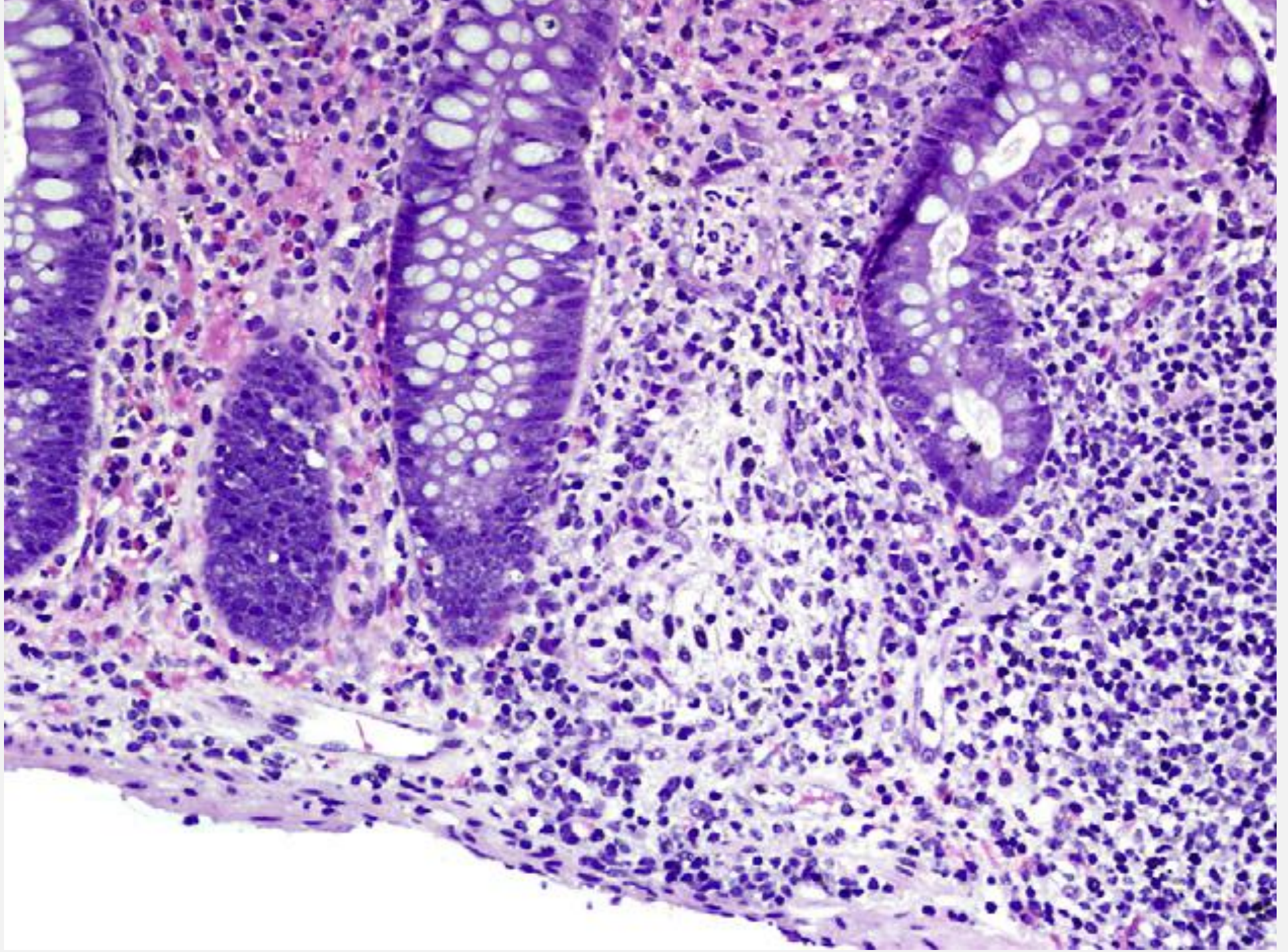


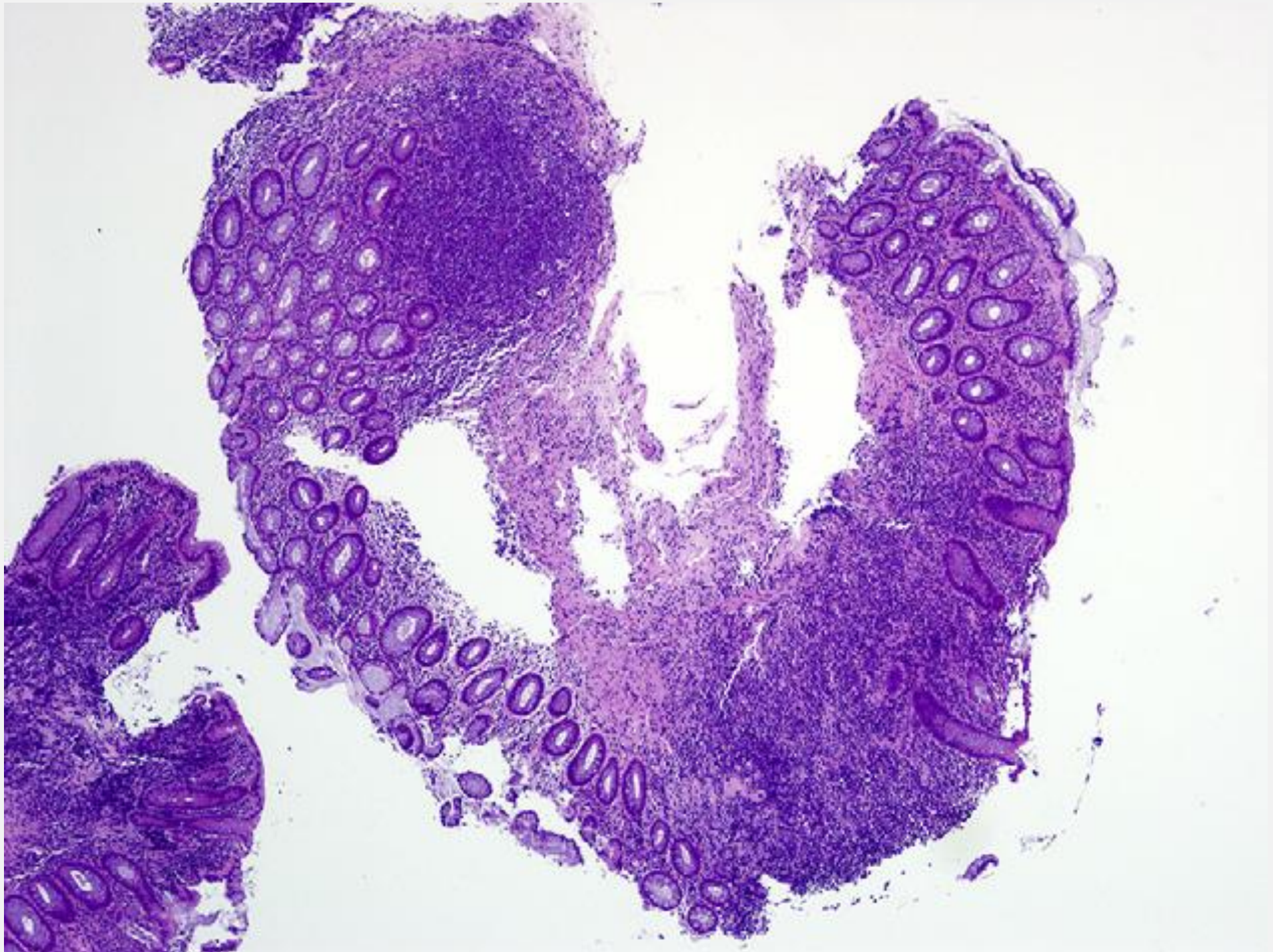


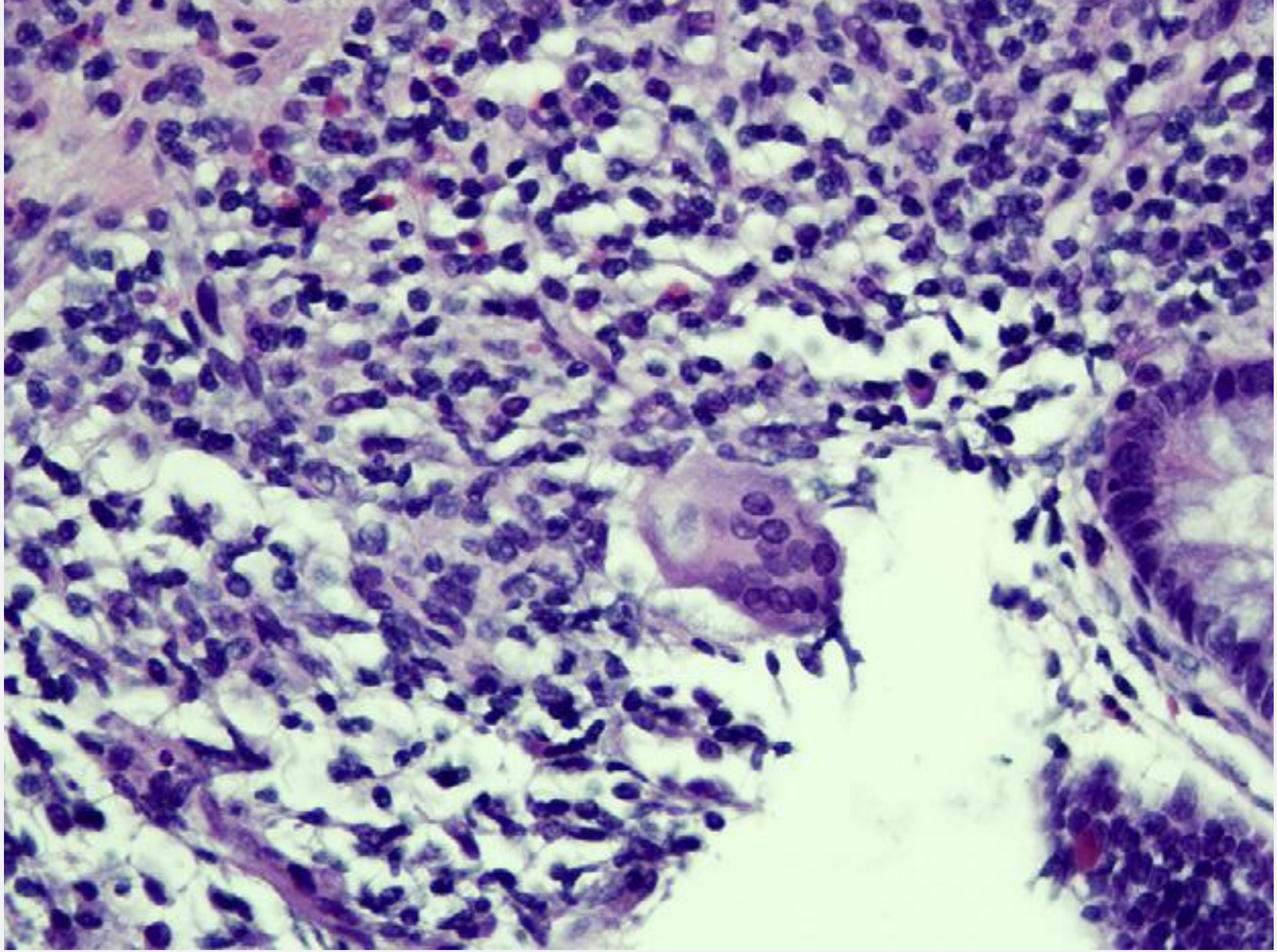
2. WHICH IS IT, UC OR CROHN'S

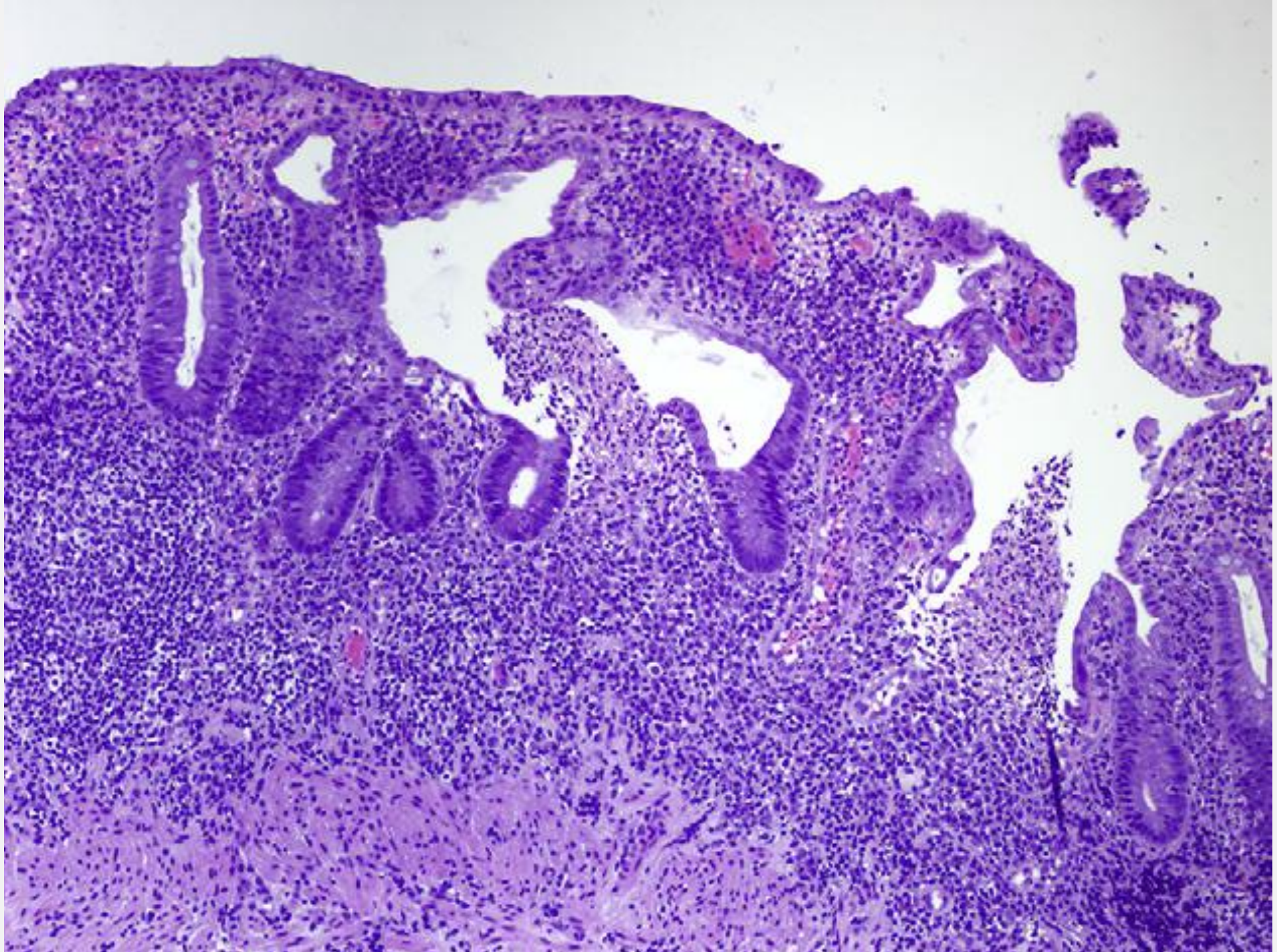
- **UC**
  - Continuous, non segmental predominantly mucosal disease
  - Rectal involvement, sometimes patchy involvement of right colon and appendix
  - Lack of ileal involvement unexplainable as backwash ileitis
- **Crohn's**
  - Fissuring ulcers
  - Transmural lymphoid aggregates
  - Granulomas unrelated to infection,, crypt rupture or FBs
  - Ileitis or Colitis or both associated with segmental disease, rectal sparing, upper GI involvement
- **Indeterminate Colitis**











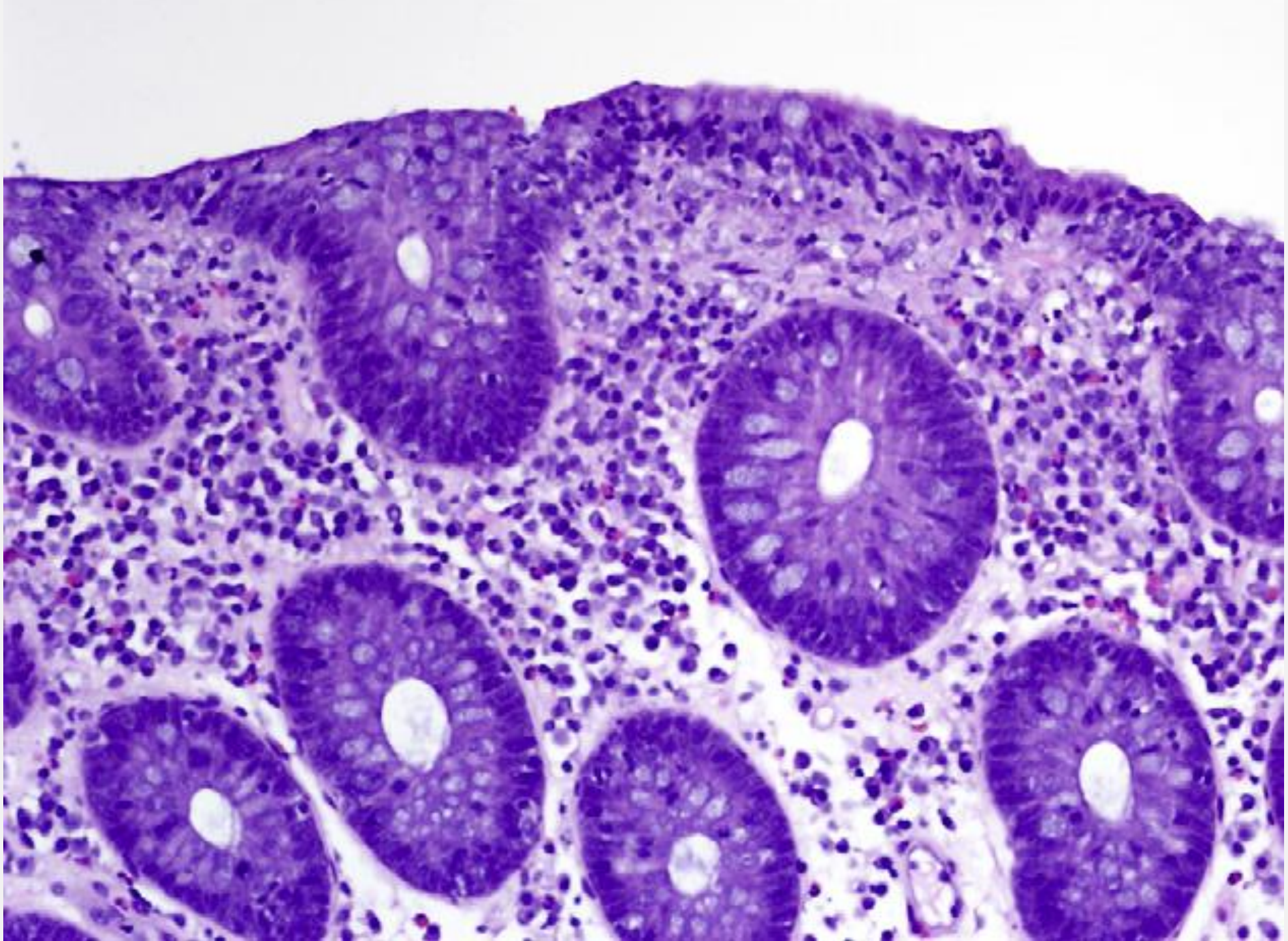
INDETERMINATE COLITIS

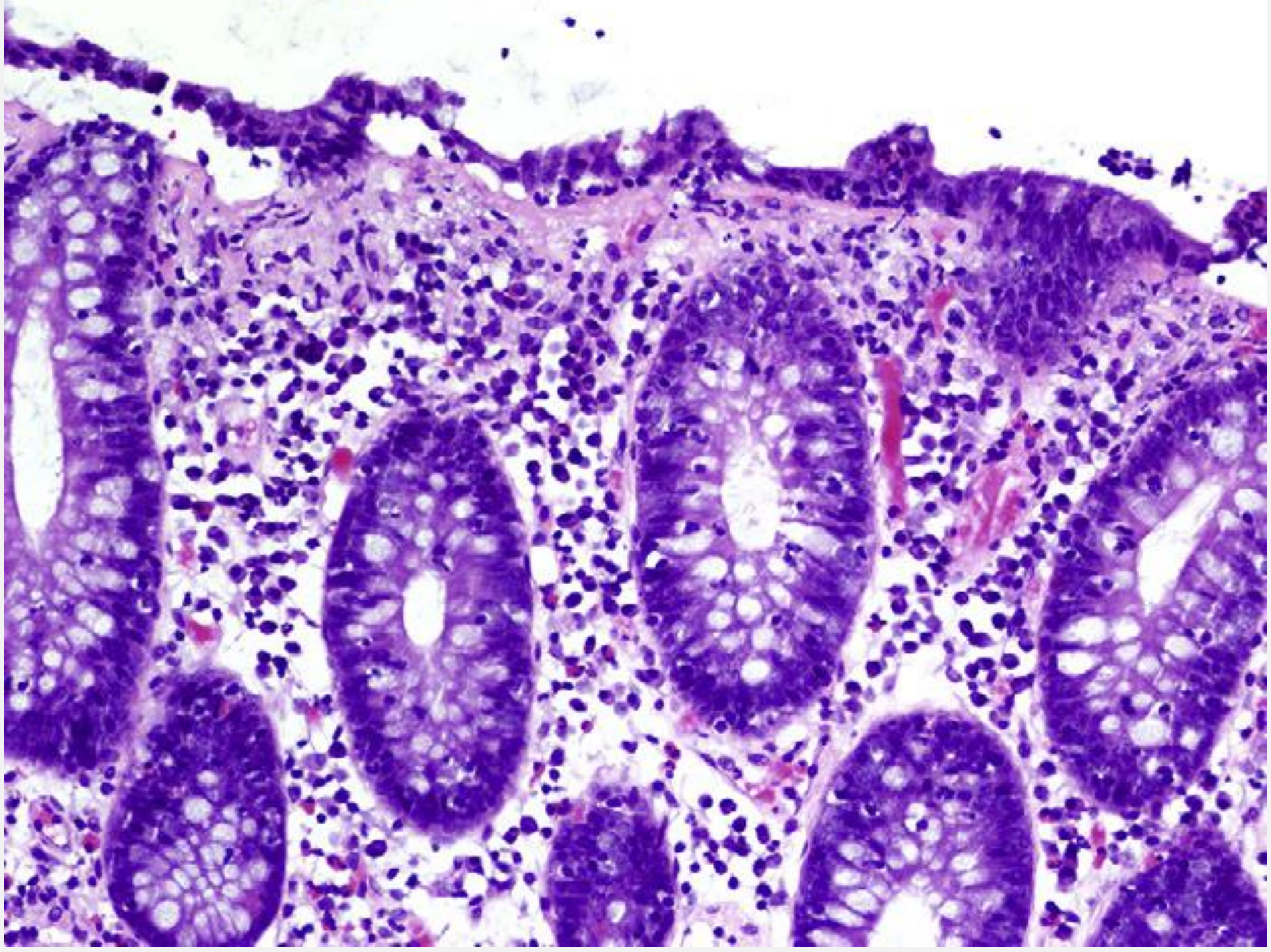
- IBD with overlapping pathological features of UC and CD so that a definitive diagnosis is difficult of impossible
- Not a disease but an interim Pathologist's diagnosis
- No pathognomonic or diagnostic criteria
- An interim position until further info (clinical, radiological or pathological) become available enough to allow a definite classification

Robert Odze A contemporary and Critical Appraisal of 'Indeterminate Colitis' Modern Pathology 28, 530 – 546 2015

MICROSCOPIC COLITIS

- Collagenous Colitis
- Lymphocytic Colitis





3. DISEASE MONITORING

- Assessment of Disease Activity
  - Grading
    - Mild, Moderate or Severe
- Dysplasia
  - Flat Dysplasia
  - Polypoid Dysplasia
    - High-grade dysplasia
    - Low-grade dysplasia

1. Engelsgjerd M. et al Polypectomy may be adequate treatment for adenoma-like dysplastic lesions ib chronic ulcerative colitis Gastroenterology 117; 1288 -1294 1999
2. Rubin PH et al Colonoscopic polypectomy in chronic colitis; conservative management after endoscopic resection of dysplastic polyps Gastroenterology 117 1295 1300 1999
3. Blackstone M. et al Dysplasia-associated lesions or mass detected by colonoscopy in long-standing ulcerative colitis: an indication for colectomy Gastroenterology 80, 366 – 374 1981

CHALLENGES IN SSA

- Clinical
  - Not nearly enough Gastroenterologists
  - Dearth of endoscopy and imaging tools
  - Dismal medical records
- Laboratory
  - Other Path labs
    - Microbiology
    - Clinical chemistry
  - Histopathology
    - GIT Pathologists are few and far between
    - Pathology Training in IBD could do with some assistance

Thank you for listening