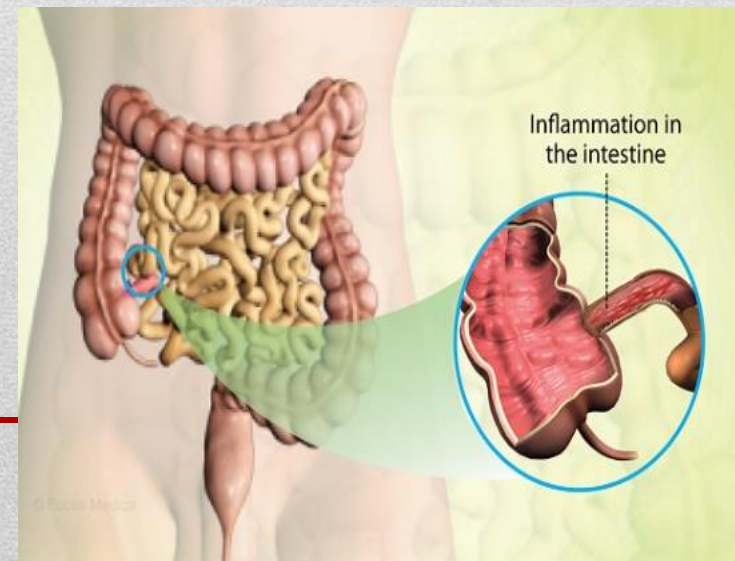




# Crohn's disease

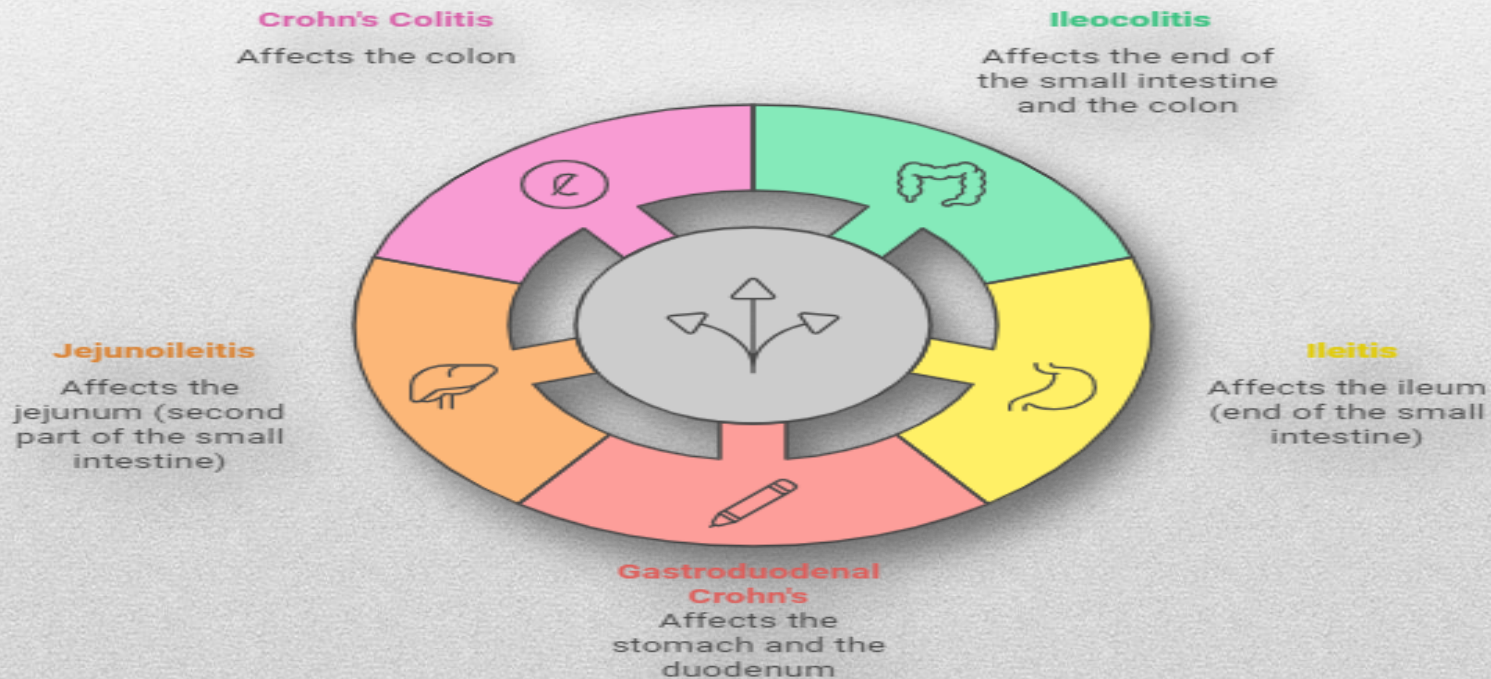
Lab 7



# Crohn's disease

- ❖ Are chronic inflammatory bowel diseases with protracted relapsing & remitting course
- ❖ It can affect any part of the gastrointestinal tract, from the mouth to the anus.

Types of Crohn's Disease





# Crohn's Disease Symptoms



Loss of appetite



Blood in your stool



Fatigue



Fever



Mouth sores



Stomach aches  
and cramps



Weight loss



Diarrhea

# Causes

1. Genetic factors
2. Immune factors
3. Environmental factors
4. Smoking
5. Infection
6. Psychological stress
7. Geographic factors
8. Age and gender





# Complication

## Consequences of Untreated Intestinal Conditions

### Cancer

Malignant growths  
in the intestine

### Bowel Perforation

Holes in the  
intestinal wall  
leading to leakage

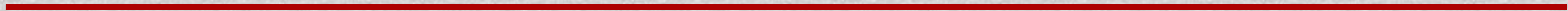


### Fissures

Small tears in the  
intestinal lining

### Fistulas

Abnormal  
connections  
between intestinal  
segments



# Diagnosis



**colonoscopy**



**upper or  
capsule  
endoscopy**



**abdominal  
CT scan**



**blood tests**

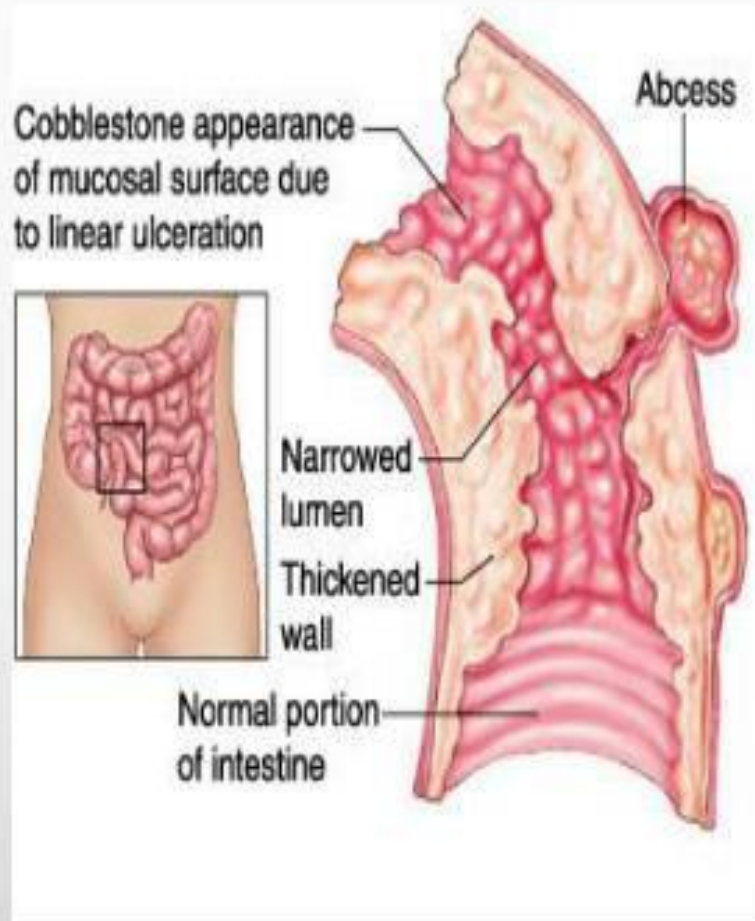


**stool tests**





# DIAGNOSIS



## Colonoscopy:

Provides view of the entire colon

Tissue for biopsy and laboratory analysis

The presence of granulomas

(clusters of inflammatory cells)

confirm the diagnosis because they only occur with Crohn's disease

## CT Scan:

Provides image of the whole bowel

Allows the doctor to see the location and extent of the disease

Also checks for complications like partial blockages, abscesses or fistulas

## MRI:

Creates detailed images of organs and tissues

Very useful in the diagnosis and management of the disease

## Capsule Endoscopy:

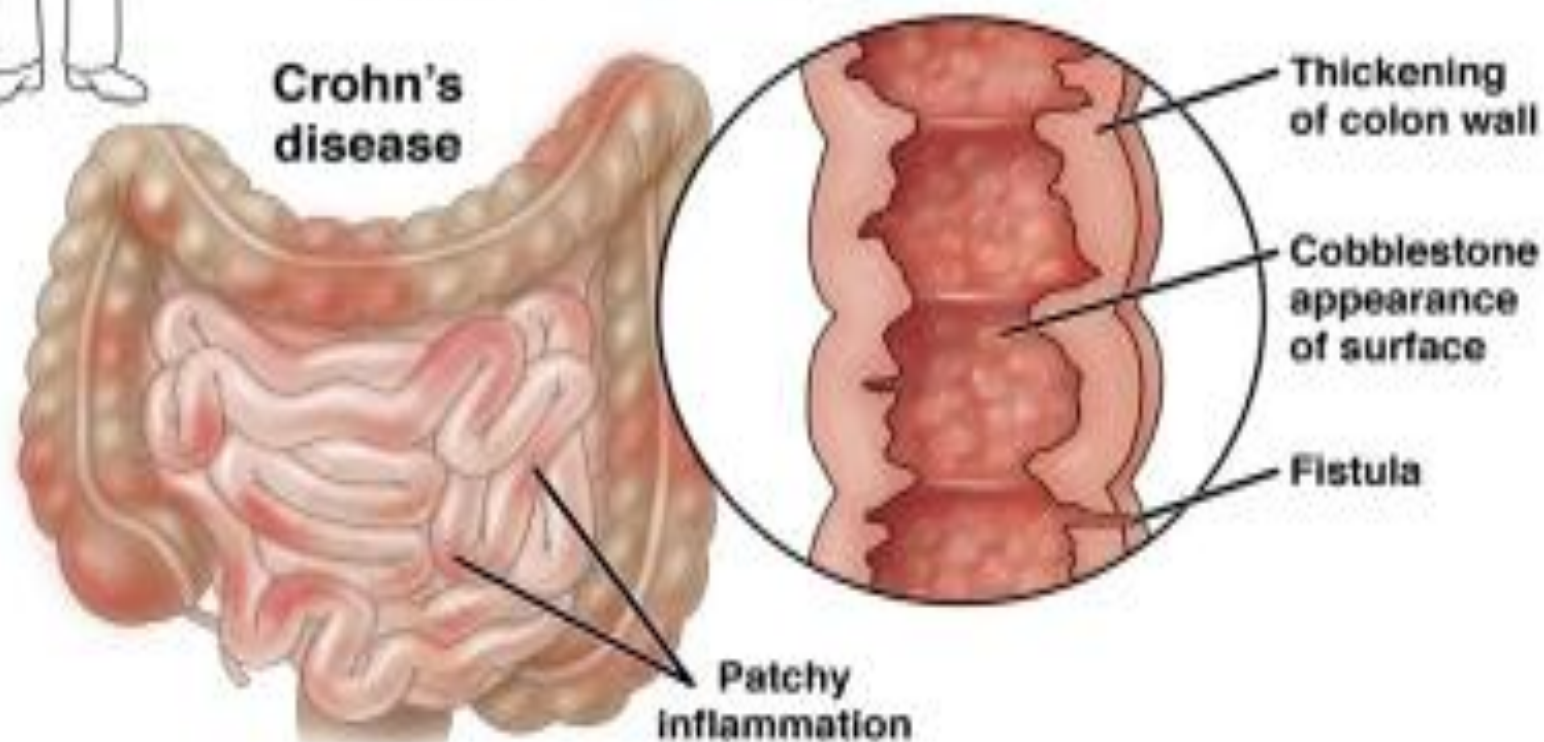
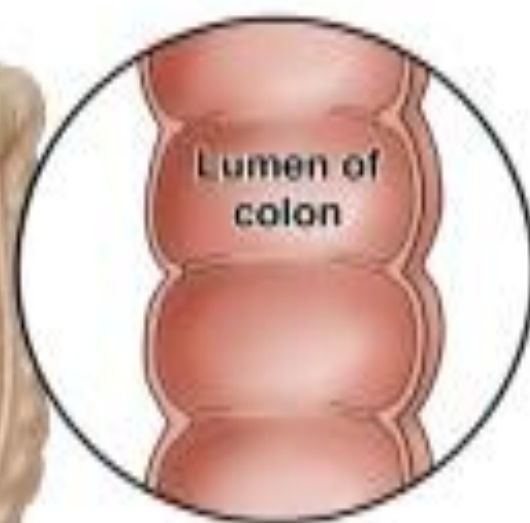
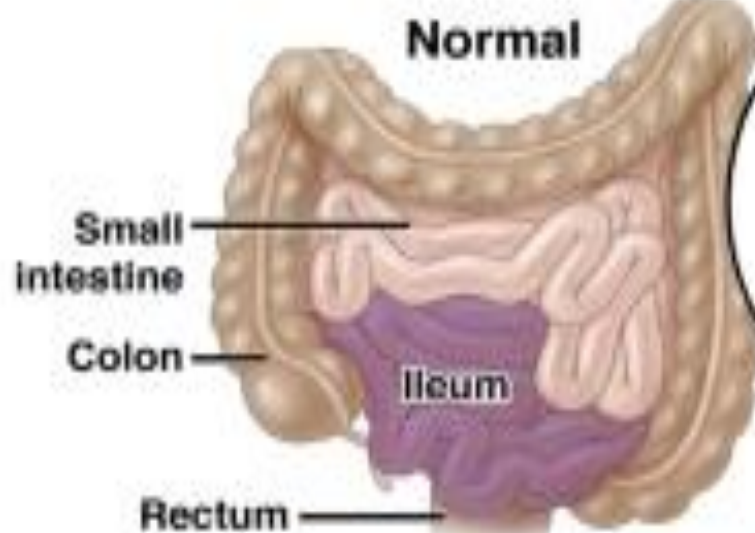
Swallow a capsule that has a camera in it  
Takes pictures as it moves through the digestive tract

The images are downloaded which can be checked for signs of Crohn's disease

# Essential features

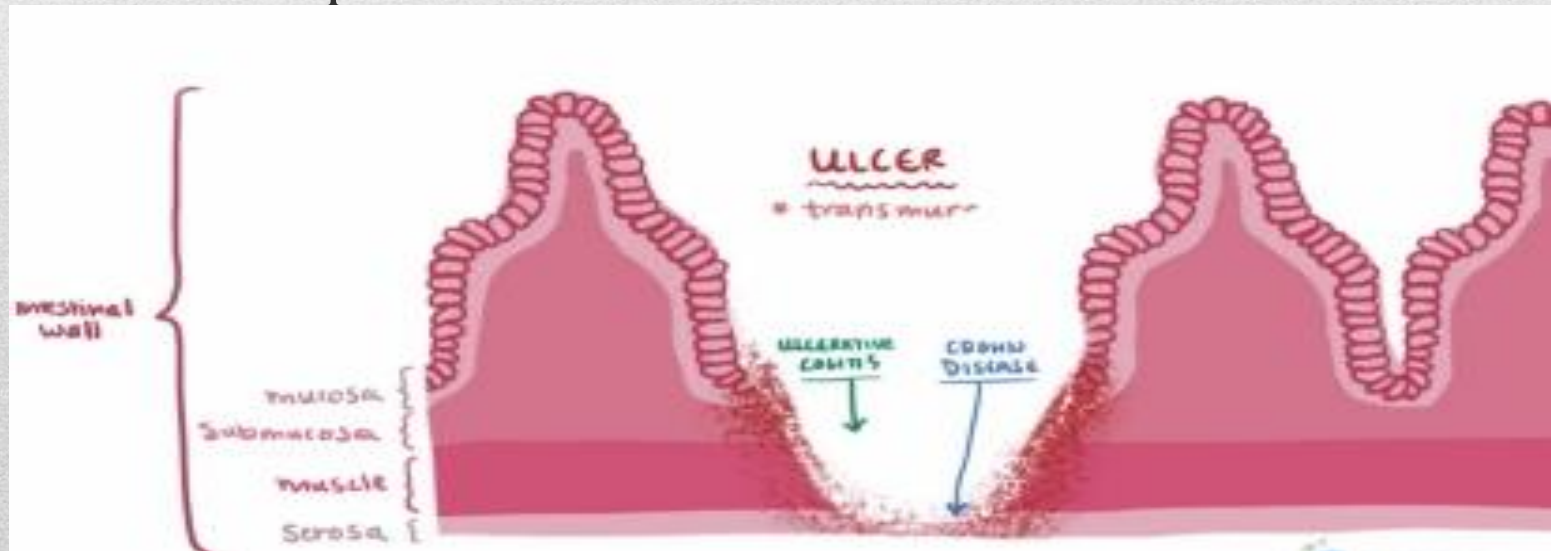
- Diagnostic criterion: segmental disease, transmural inflammation, noncaseating granulomas, deep fissuring ulcers, ileal involvement
  - Distal ileum is the most commonly involved part of the small intestine
  - Risk of colorectal carcinoma increases with duration and extent of disease
-



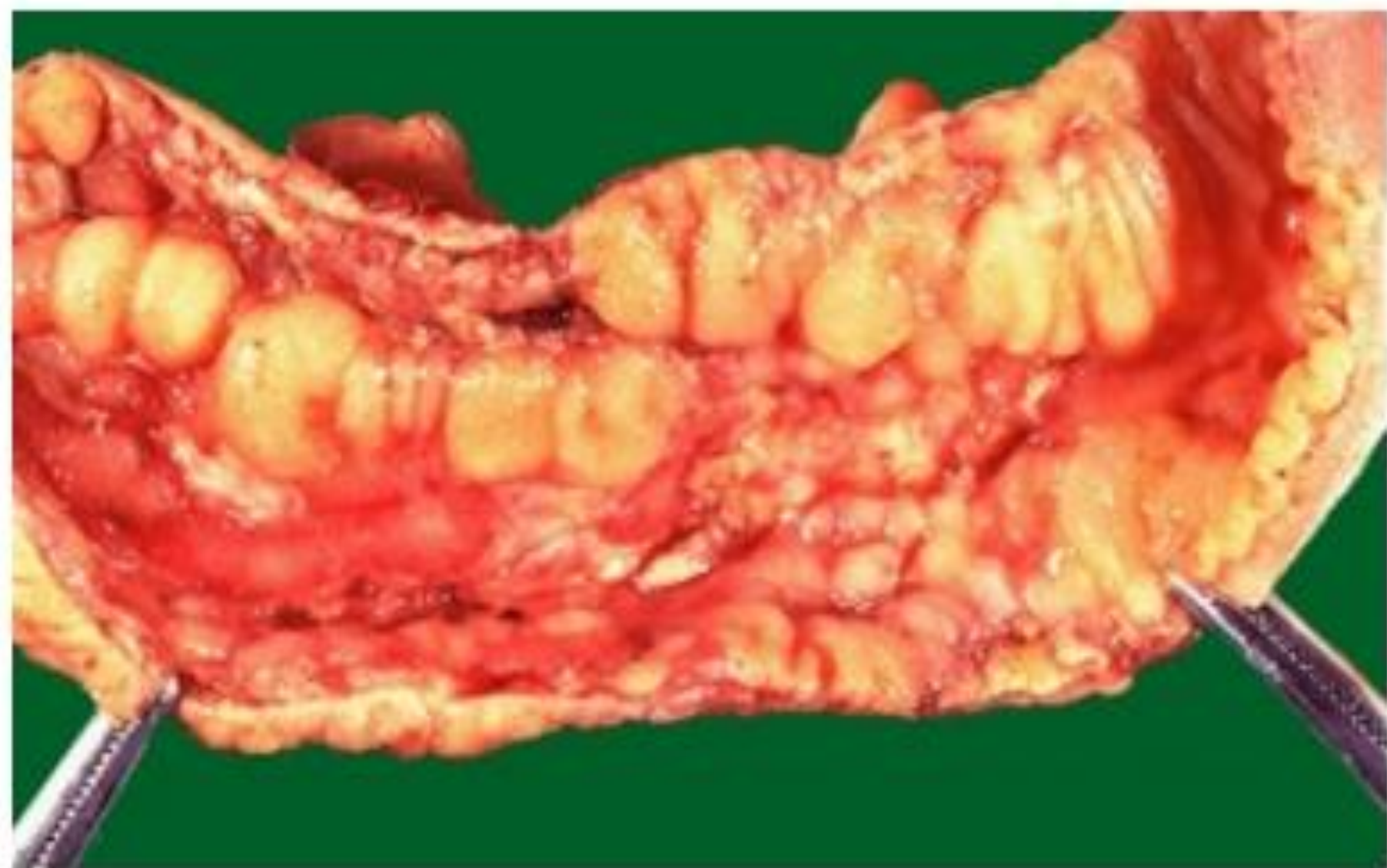


# Hallmark of crohns disease under microscope

- Crypt abscesses are the accumulation of inflammatory cells within crypts, which are tube-like glands found in the lining of the gastrointestinal system (i.e., digestive tract).
- Crypt architectural distortion
- All layers inflammation with lymphoid aggregates in the subserosal adipose tissue







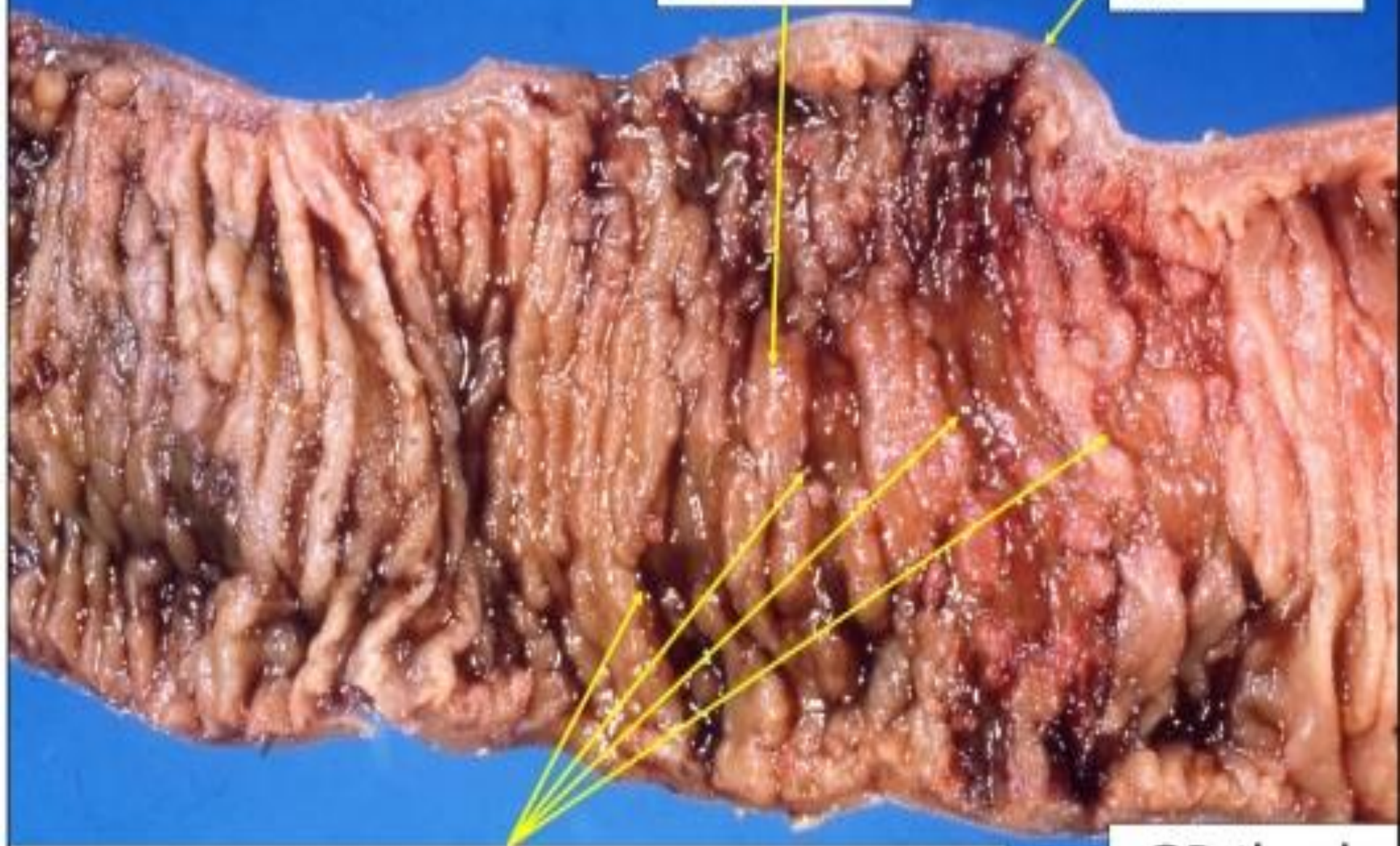
- Discontinuous pattern of inflammation (segmental disease, skip lesions)
- Cobblestone appearance (areas of nonulcerated mucosa separated by deep ulcers)



**Colon – Crohn's disease**

Intervening intact  
mucosa

Deep fissuring  
ulcer



Multiple serpinginous skip ulcers that spare the intervening mucosa

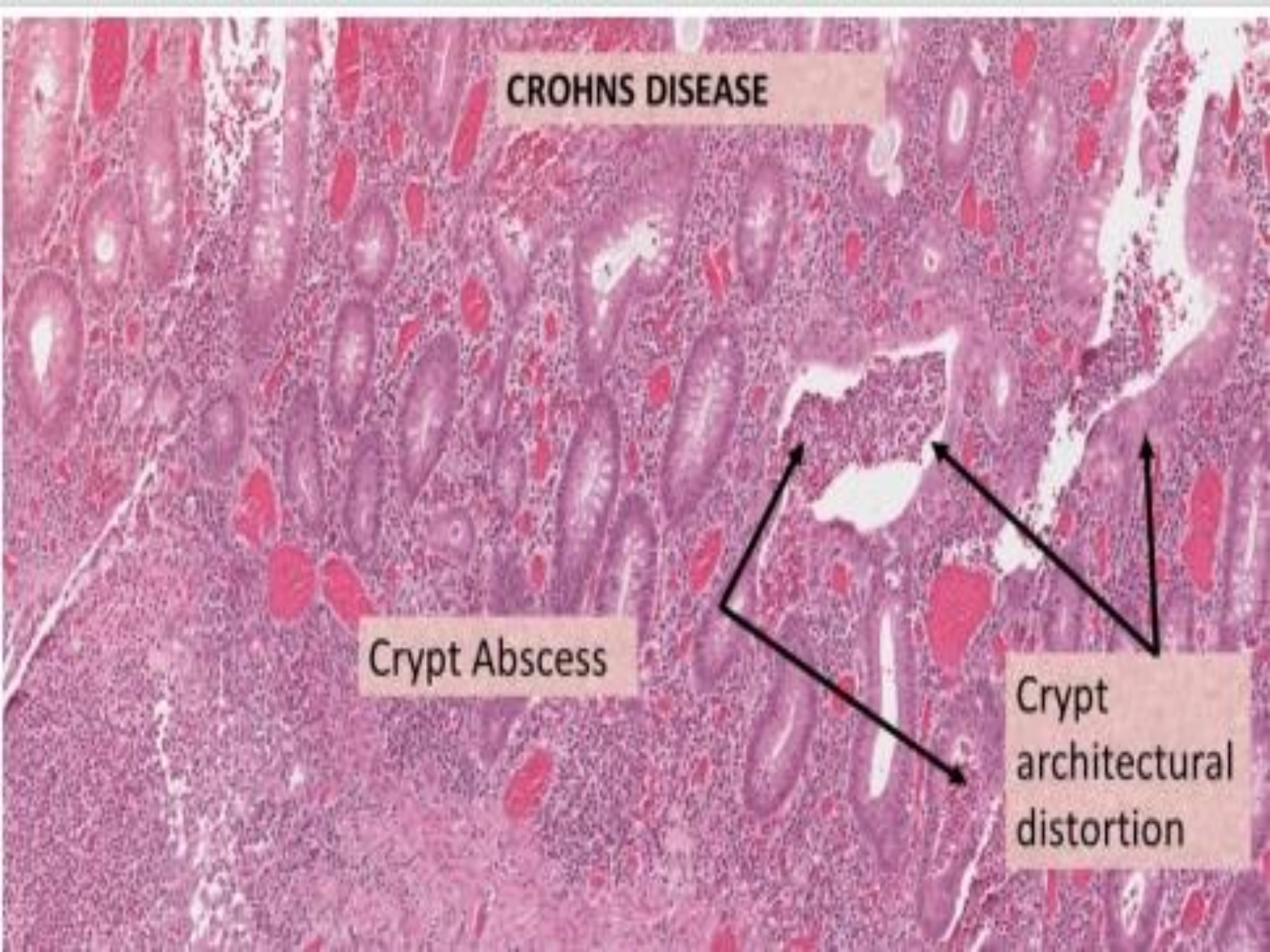
**@Pathweb**



# CROHNS DISEASE

Crypt Abscess

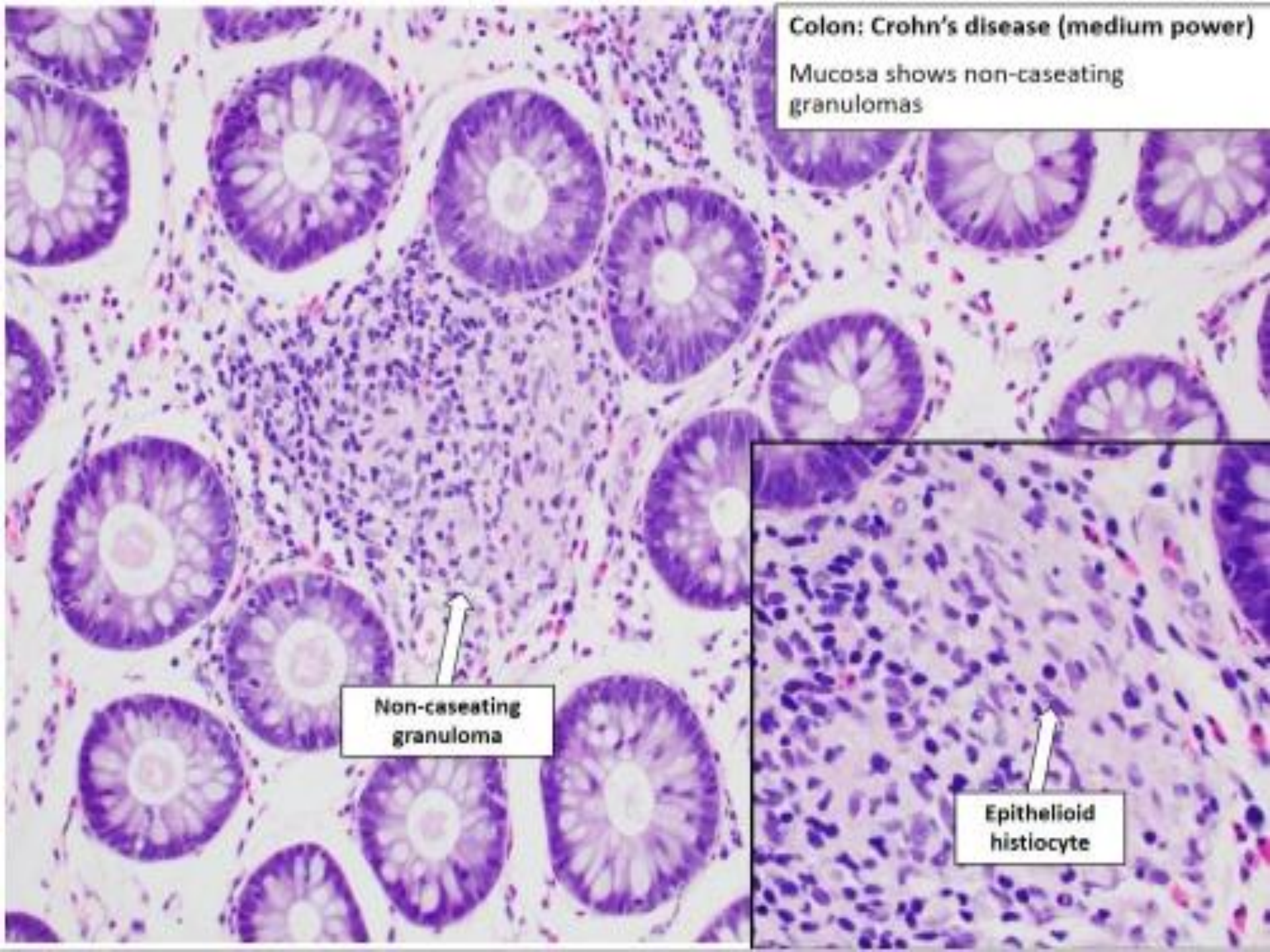
Crypt  
architectural  
distortion





Colon: Crohn's disease (medium power)

Mucosa shows non-caseating granulomas



This histological image shows a cross-section of the colon mucosa. Numerous crypts are visible, lined by columnar epithelial cells. The lamina propria between the crypts contains a dense infiltrate of inflammatory cells. A specific cluster of these cells is highlighted as a non-caseating granuloma. An inset in the lower right corner provides a higher magnification view of this granuloma, showing individual epithelioid histiocytes with characteristic features.

Non-caseating  
granuloma

Epithelioid  
histiocyte



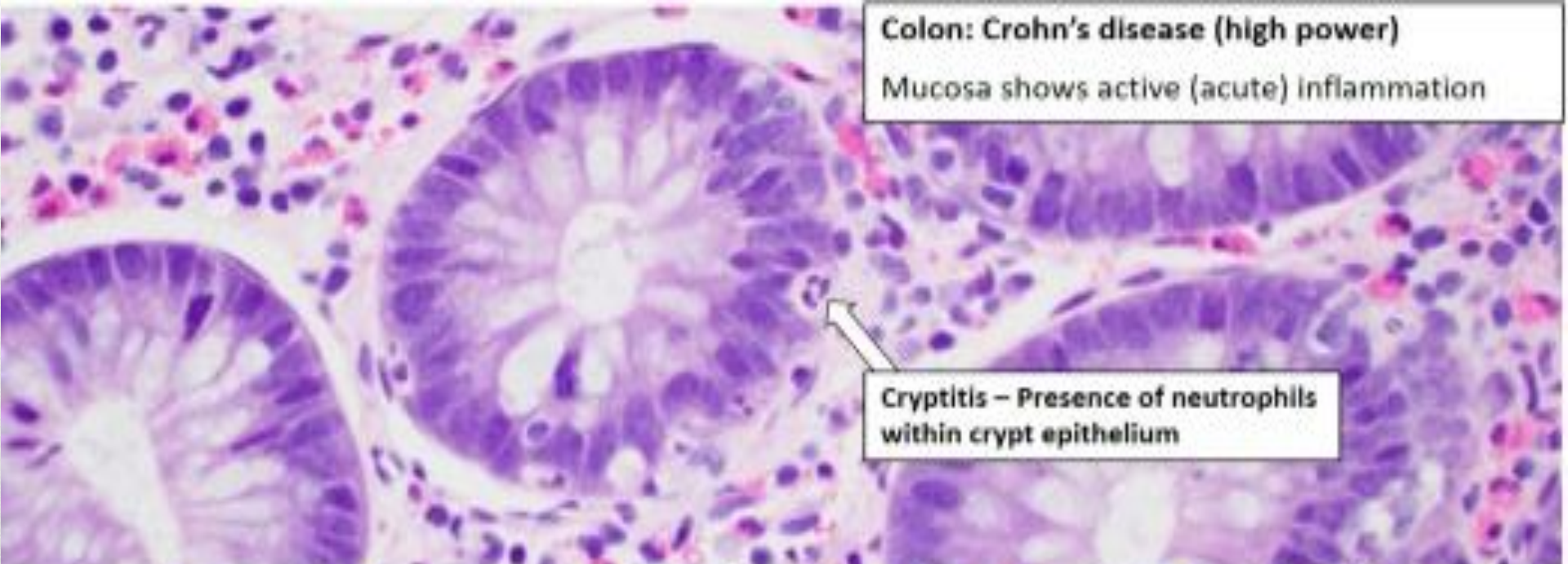


Diagnosis is  
Crohn's disease  
There is  
granulomatous  
inflammation in  
the lamina propria



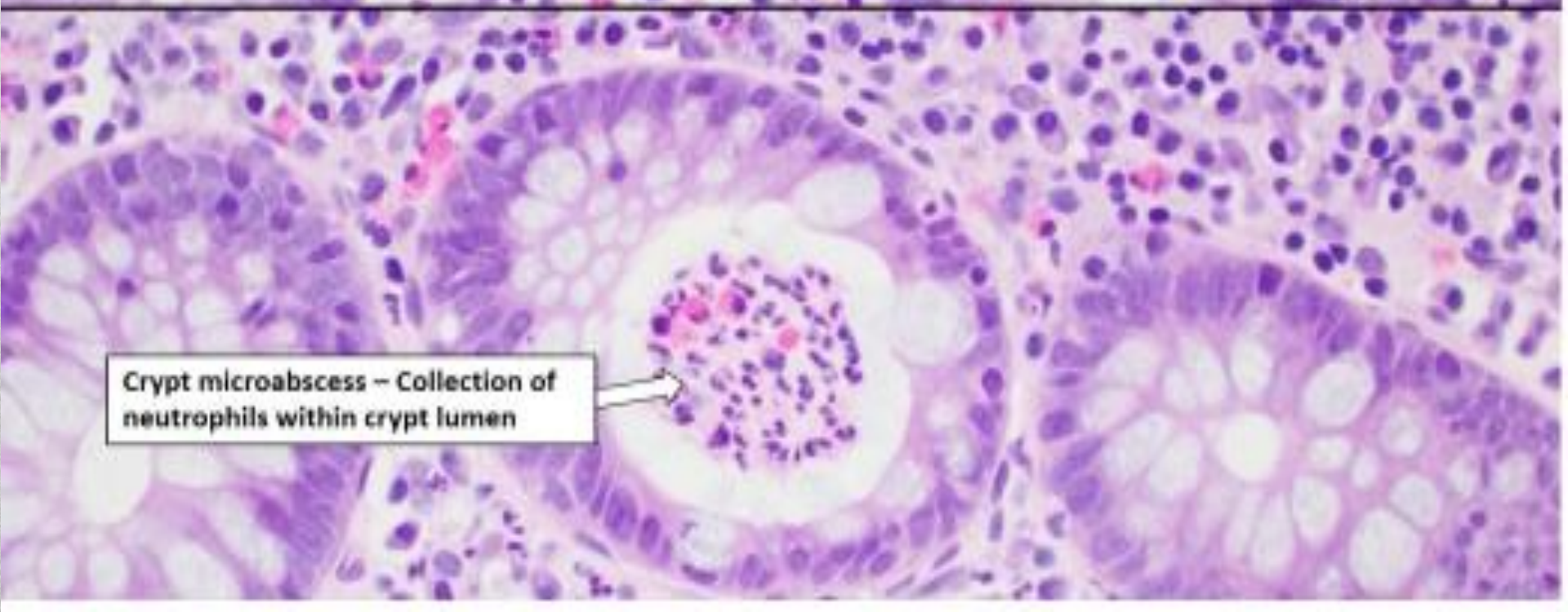
Colon: Crohn's disease (high power)

Mucosa shows active (acute) inflammation



This histological section shows several crypts of the colon. The crypts are lined by columnar epithelial cells. In the upper right, an arrow points to a crypt where neutrophils have infiltrated the epithelial layer, a condition known as cryptitis. The surrounding lamina propria contains a dense population of inflammatory cells, including many neutrophils.

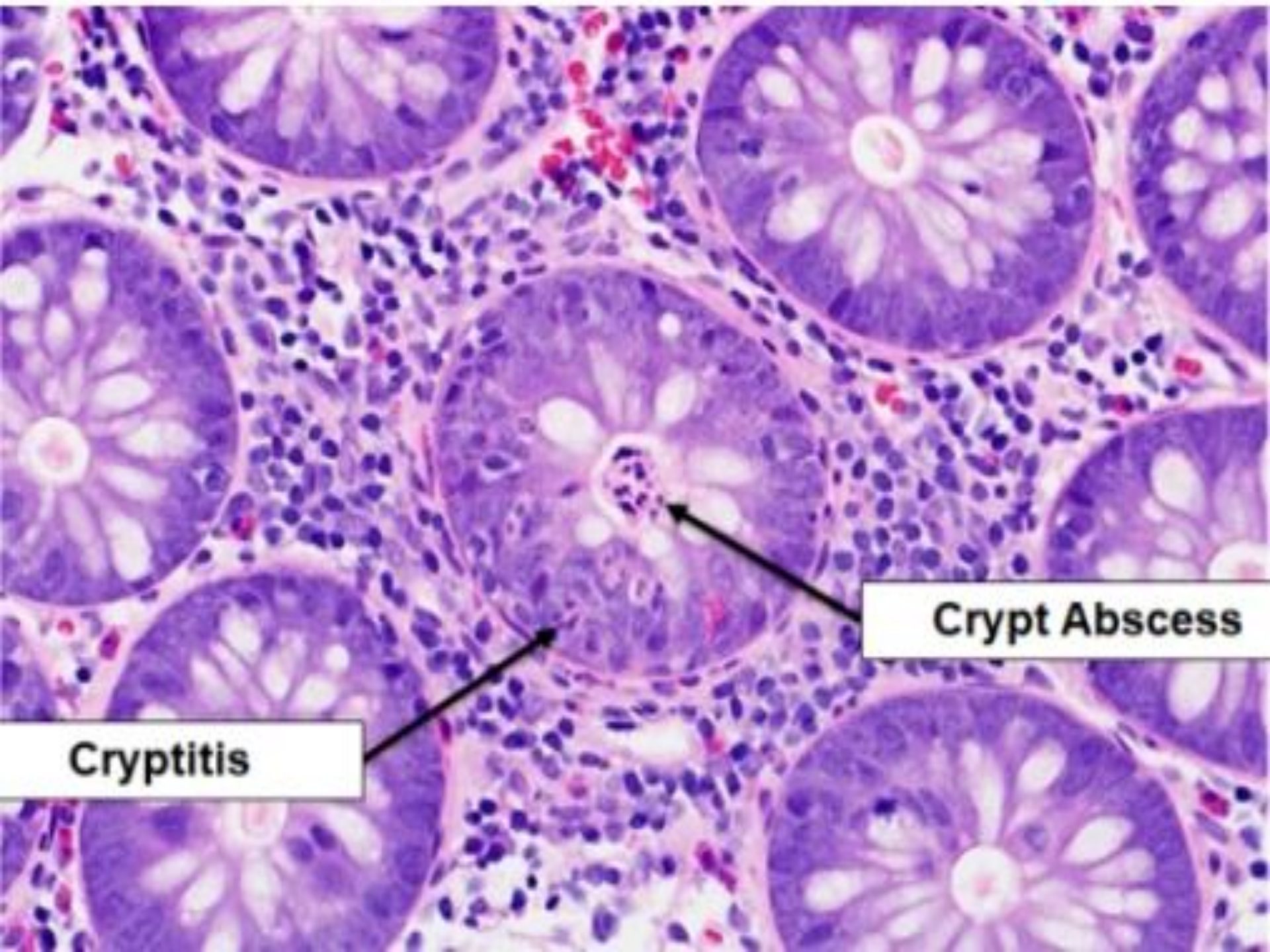
Cryptitis – Presence of neutrophils within crypt epithelium



This histological section shows a crypt with a microabscess. An arrow points to the lumen of the crypt, which is filled with a collection of neutrophils. The crypt is surrounded by inflamed lamina propria with many neutrophils and other inflammatory cells.

Crypt microabscess – Collection of neutrophils within crypt lumen





**Cryptitis**

**Crypt Abscess**





Thank you