

# Extra intestinal manifestations

فلا حظه فدونك إلا لهم :-

الدكتورَة قالت تعليقا على العدد القليل بالعدد :- "بتصنعوا بالباطو فشان

الجلوبال ! فتندموا"

و بتقبل أنت حاليًا بعرجة الدم مضم هيك ؟  
وأنا كان معهم

مضم قصدي أنكرك طبعًا ، قول بسم الله  
وتلا

- ▶ Uveitis → inflammation of the iris, eye.  
means it appear in Knee then ankle joint then elbow joint
- ▶ Migratory polyarthritis → swelling and pain in joint  
يعني بيأش
- ▶ Sacroiliitis → inflammation in sacroiliac joint  
عاد كنة مثلك بتطية
- ▶ Ankylosing spondylitis, وبيأش
- ▶ Erythema nodosum  
عاد هيك
- ▶ Clubbing of the fingertips
- ▶ Primary sclerosing cholangitis (more with UC)  
↳ disease in the liver  
↳ but you can see it with crohn. diseases

# Erythema nodosum



# Clubbing

The angle between the nail and the nail bed becomes convex



not specific, you will see in many other chronic illnesses.

[Wikipedia](#)

# Ulcerative Colitis

## Morphology

\* المكتورة هون قارتة  
التقاط مع ال Crohn disease  
لهيك ر2 اذ كر يلي حكة  
عنه بهاللون.

→ nearly all features are opposite to crohn disease.

- ▶ Always involves the rectum → not necessarily in rectum
- ▶ Extends proximally in continuous pattern. → Crohn in skip lesions
- ▶ Pan colitis.
- ▶ Occasionally focal appendiceal or cecal inflammation.
- ▶ Ulcerative proctitis <sup>just in rectum</sup> or ulcerative proctosigmoiditis <sup>rectum and sigmoid.</sup>

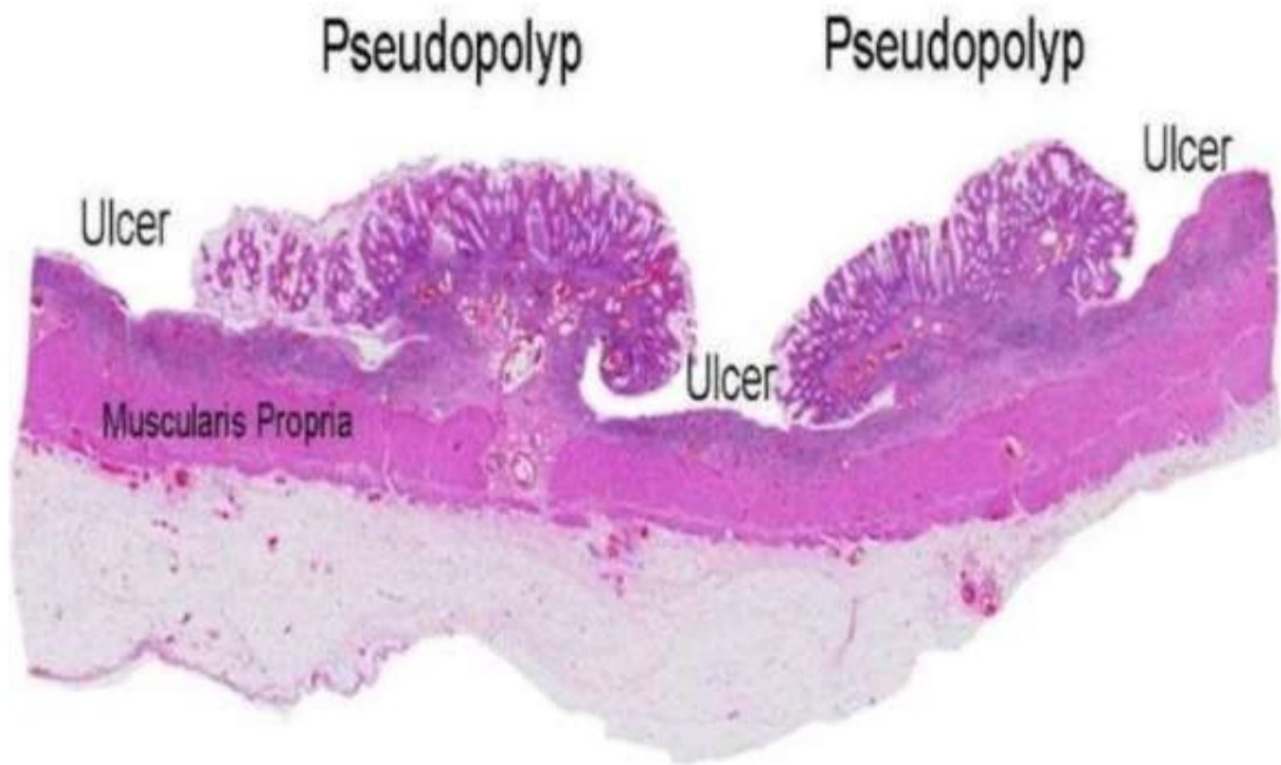
- ▶ Small intestine is normal (except in backwash ileitis)  
→ very important to differentiate it from Crohn disease.

→ The last few cms of terminal ileum is inflamed  
\* That doesn't mean small bowel involvement.



▶ Macroscopic:

- ▶ Broad-based ulcers. *not deep with no fissures or fistulas.*
- ▶ Pseudopolyps
- ▶ Mucosal atrophy in long standing
- ▶ Mural thickening absent
- ▶ Serosal surface normal
- ▶ No strictures
- ▶ Toxic megacolon



# Toxic megacolon

*Radiology of toxic megacolon.*



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- ▶ **Microscopic:**

*indicates → active infection in addition to chronic disease (signs)*

- ▶ Inflammatory infiltrates

- ▶ Crypt abscesses

- ▶ Crypt distortion

- ▶ Epithelial metaplasia

- ▶ Submucosal fibrosis → *Not to the whole wall so no stricture or narrowing*

- ▶ Inflammation limited to mucosa and submucosa.

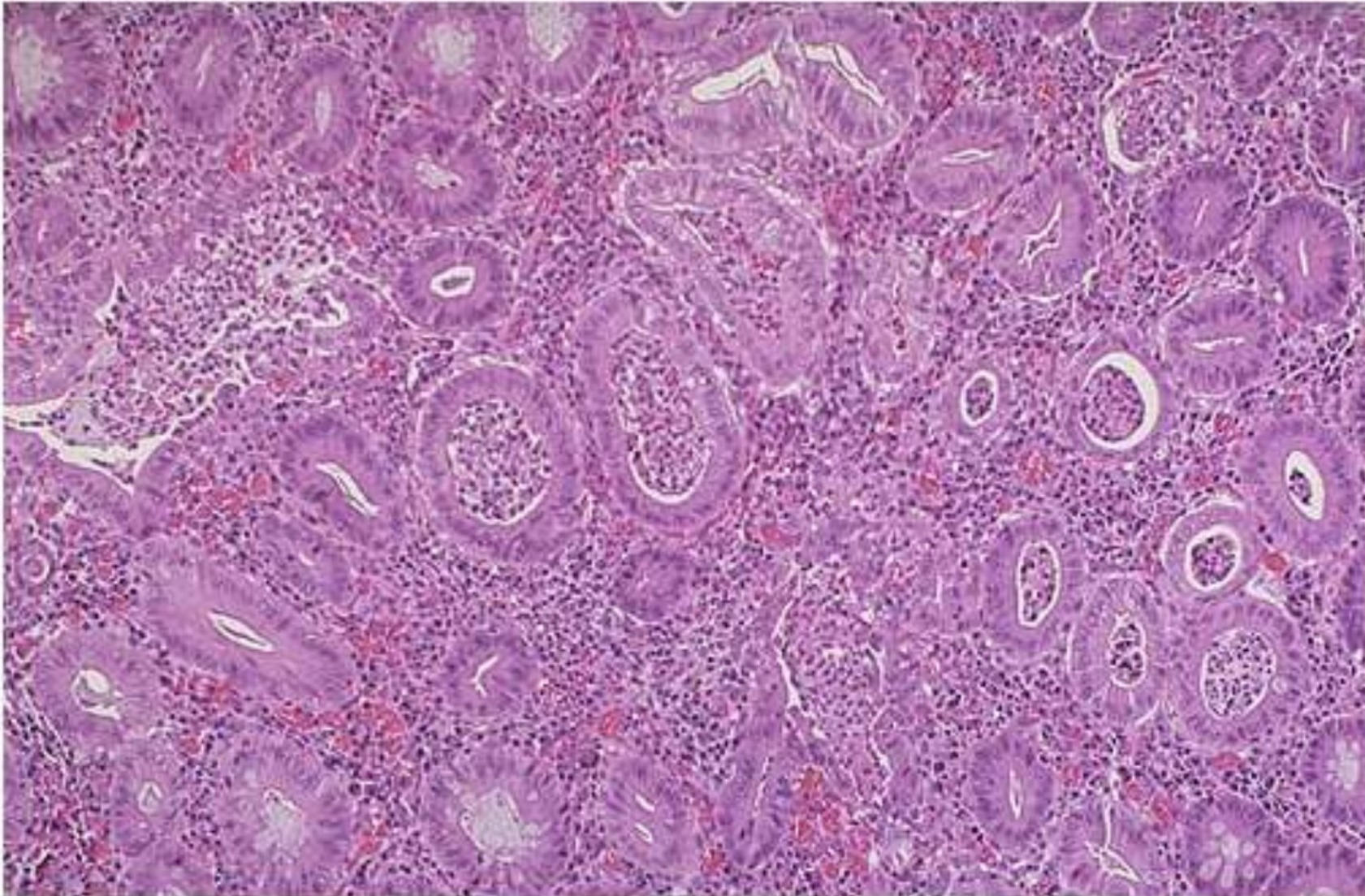
- ▶ No skip lesions

- ▶ No granulomas.



# Crypt abscesses.

↳ Neutrophils accumulation in the lumen of the crypts.



# Mucopurulent material and ulcers.



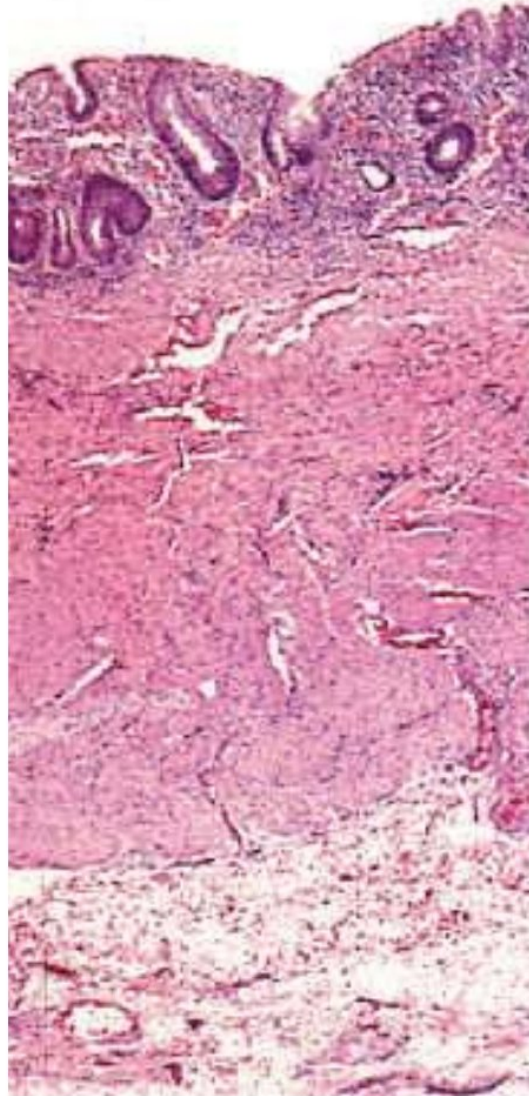
**Pancolitis.** → starting with rectum ending  
with cecum → the whole colon is  
involved.



Abrupt transition b/w normal  
and disease segment.



Limited to mucosa



# Clinical Features

الكتورة قالت: يعني كتير بيشتبه  
بعضها ما يتعصبهم مش جاينين

- ▶ Relapsing remitting disorder
- ▶ Attacks of bloody mucoid diarrhea +lower abdominal cramps
- ▶ Temporarily relieved by defecation
- ▶ Attacks last for days, weeks, or months.
- ▶ Asymptomatic intervals.
- ▶ Infectious enteritis may trigger disease onset, or **cessation** of **smoking**.
- ▶ Colectomy cures intestinal disease only

Very important table.\*

Summary →

ملا حفظة : ماتر  
 علمي احساسى  
 بالسلا يو يلر قبل

Feature	Crohn Disease	Ulcerative Colitis
<b>Macroscopic</b>		
Bowel region affected	Ileum ± colon	Colon only
Rectal involvement	Sometimes	Always
Distribution	Skip lesions	Diffuse
Stricture	Yes	Rare
Bowel wall appearance	Thick	Thin
Inflammation	Transmural	Limited to mucosa and submucosa
Pseudopolyps	Moderate	Marked
Ulcers	Deep, knifelike	Superficial, broad-based
Lymphoid reaction	Marked	Moderate
Fibrosis	Marked	Mild to none
Serositis	Marked	No
Granulomas	Yes (~35%)	No
Fistulas/sinuses	Yes	No

very important too ☺

Feature	Crohn Disease	Ulcerative Colitis
<b>Clinical</b>		
Perianal fistula	Yes (in colonic disease)	No
Fat/vitamin malabsorption	Yes	No
Malignant potential	With colonic involvement	Yes
Recurrence after surgery	Common	No
Toxic megacolon	No	Yes

NOTE: Not all features may be present in a single case.

هنا الفرق  
مستخدماً عليه بيان الـ كورتون



# Colitis-Associated Neoplasia

- ▶ Long standing UC and CD.
- ▶ Begins as dysplasia >>>> carcinoma.
- ▶ **Risk depends on**
- ▶ **Duration of disease:** increase after 8-10 years .
- ▶ **Extent of involvement:** more with pancolitis.
- ▶ **Inflammation:** frequency & severity of active disease with neutrophils.

# Small and Large Intestinal pathology, part 3

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# INFLAMMATORY INTESTINAL DISEASE

- ▶ Sigmoid Diverticulitis
- ▶ Chronic Inflammatory bowel diseases (CIBD)
  - Crohn disease
  - Ulcerative colitis

# Sigmoid Diverticulitis

انبعاج

the lining of the lumen get outside.

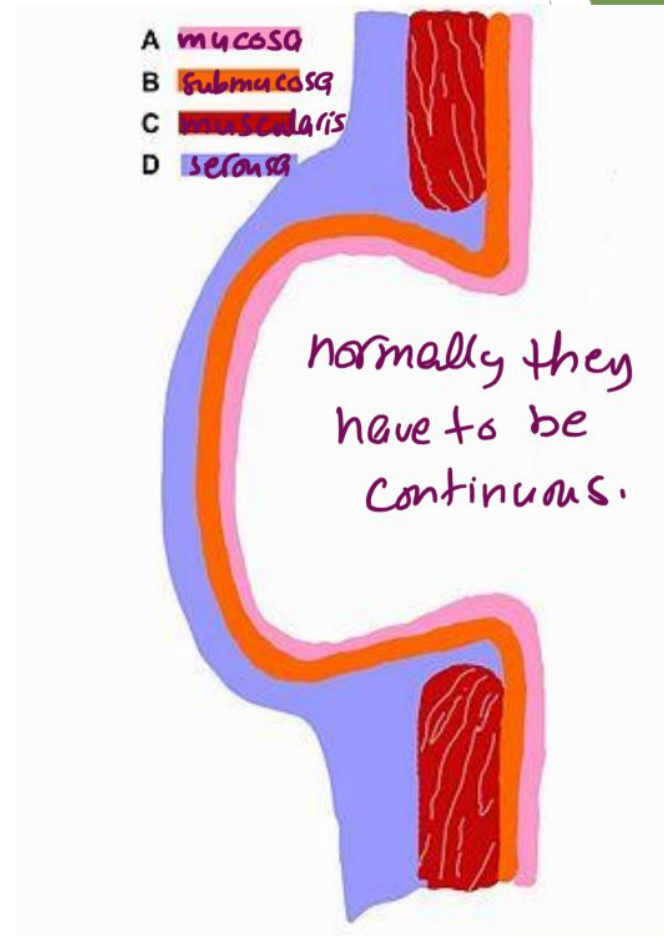
Google said: small bulges or pockets (diverticula) develop in the lining of the intestine. Diverticulitis is when these pockets become inflamed or infected.

- ▶ **Acquired.**
- ▶ Elevated intraluminal pressure in the sigmoid colon
- ▶ Exaggerated peristaltic contractions,
- ▶ Low fiber diet and constipation.

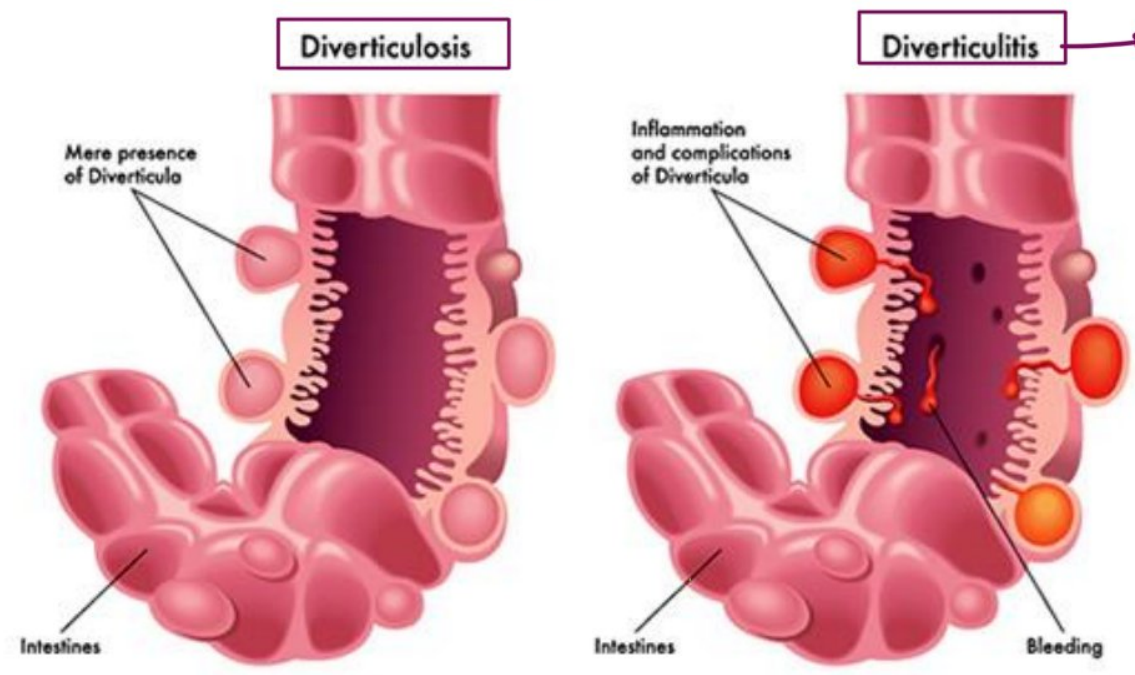
- ▶ Pseudodiverticulae *not true, as not all bowel get outside* → *JUST mucosa and submucosa.*
- ▶ Outpouchings of colonic mucosa and submucosa

# MORPHOLOGY

- ▶ Flasklike outpouchings
- ▶ **Mostly in sigmoid colon.**
- ▶ Thin wall (atrophic mucosa, compressed submucosa)
- ▶ Attenuated or absent muscularis.
- ▶ Obstruction leads to diverticulitis.
- ▶ Risk of perforation.
- ▶ Recurrent diverticulitis leads to strictures.



with no inflammation



after infection it becomes inflamed to its litis



↪  
obening of  
diverticulitis



# Clinical Features

- ▶ Mostly asymptomatic.
- ▶ Intermittent lower abdominal pain
- ▶ Constipation or diarrhea.  
*↳ if inflammation occurs, diarrhea will occur.*

## ▶ Tx

- ▶ High fiber diet. *↳ to treat the cause of constipation*
  - ▶ Antibiotics in diverticulitis.
  - ▶ Surgery *↳ if there is perforation*
- ↳ as it increases the pressure.*



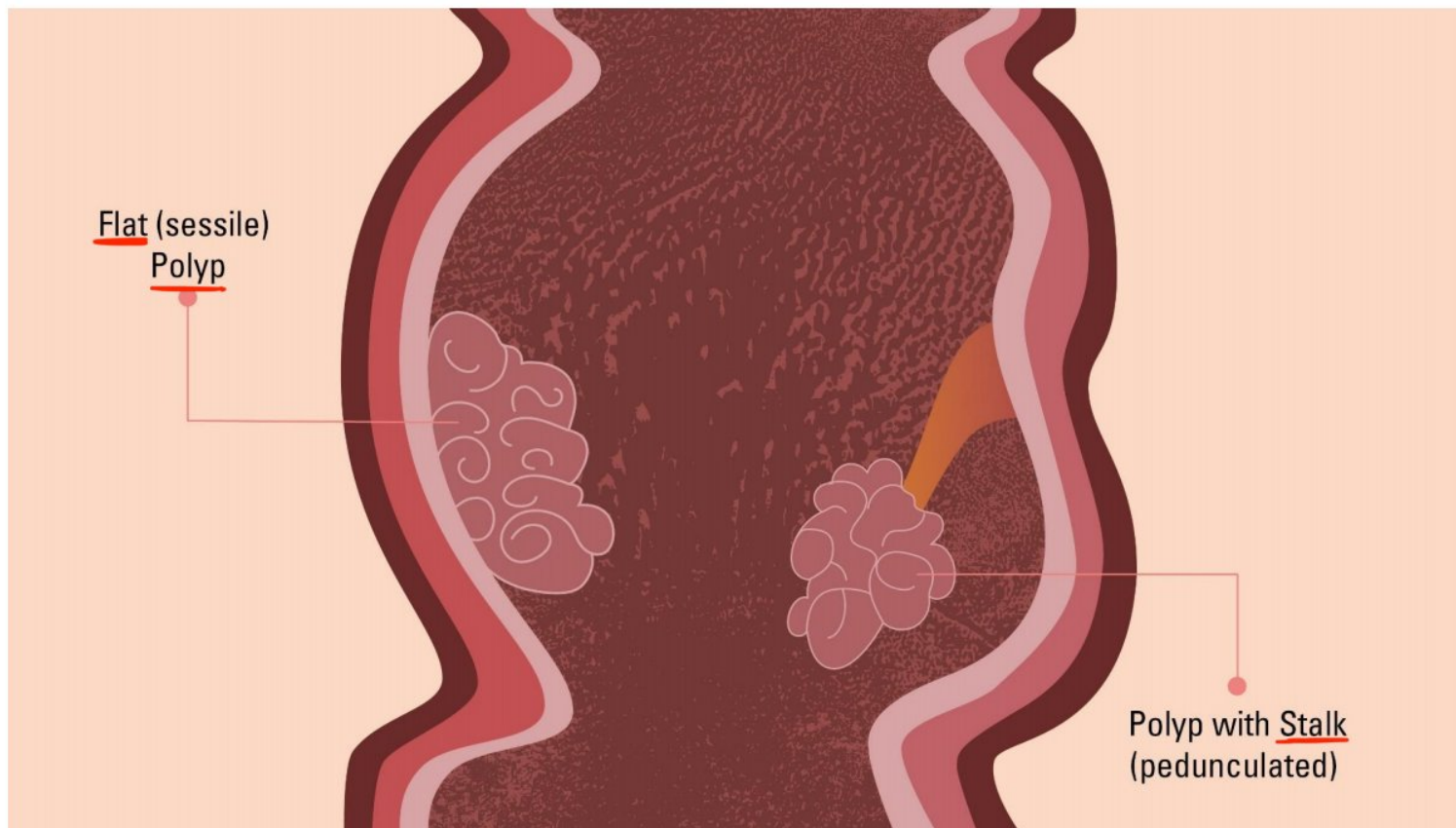
# Diseases of the intestines

- ▶ Intestinal obstruction
- ▶ Vascular disorders
- ▶ Malabsorptive diseases and infections
- ▶ Inflammatory bowel disease.
- ▶ **Polyps and neoplastic diseases**

# COLONIC POLYPS AND NEOPLASTIC DISEASE

↳ projection above the level of the mucosa.

- ▶ Colon is most common site for polyps
- ▶ *Sessile polyp*: no stalk
- ▶ *Pedunculated polyp*: stalk.
- ▶ *Tumors*  
*Neoplastic polyps*: adenoma.
- ▶ *Non neoplastic polyps*: inflammatory, hamartomatous, or hyperplastic

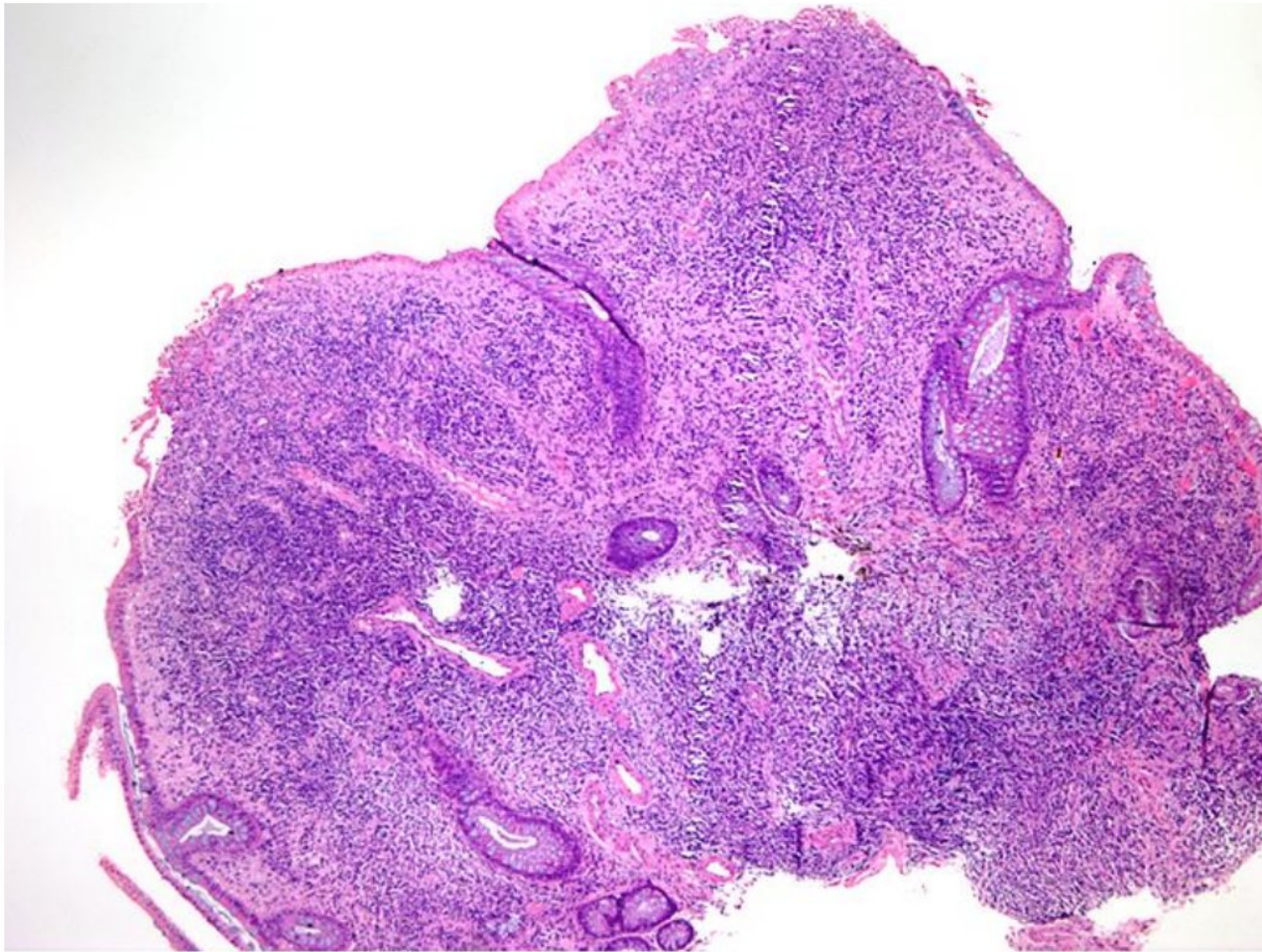


Flat (sessile)  
Polyp

Polyp with Stalk  
(pedunculated)

# Inflammatory Polyps

- ▶ Solitary rectal ulcer syndrome. → happens just in rectum.
- ▶ Recurrent abrasion and ulceration of the overlying rectal mucosa.
- ▶ Chronic cycles of injury and healing give a polypoid mass of inflamed and reactive mucosal tissue.



4x: low power, dense inflammation in lamina propria

# Hamartomatous Polyps

- ▶ Sporadic or syndromic.
- ▶ Disorganized, tumor-like growth composed of mature cell types normally present at that site.
  
- ▶ Juvenile Polyps
- ▶ Peutz-Jeghers Syndrome

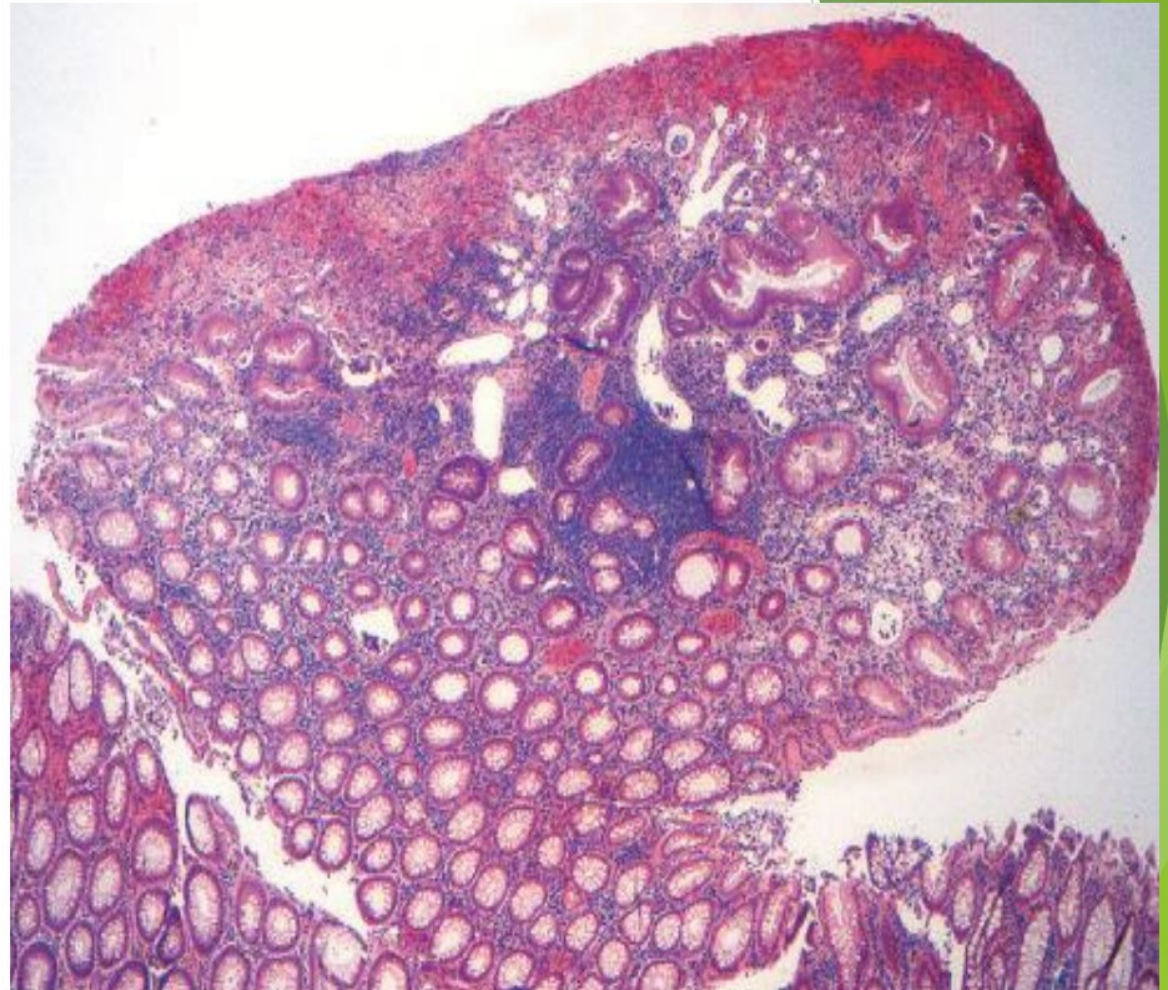
# Juvenile Polyps

↳ always means young age.

- ▶ Most common hamartomatous polyp
- ▶ **Sporadic are solitary.**
- ▶ Children younger than 5 years of age
- ▶ Rectum.
  
- ▶ **Syndromic are multiple.**
- ▶ 3 to as many as 100. Mean age 5 years
- ▶ Autosomal dominant syndrome of juvenile polyposis
- ▶ Transforming growth factor- $\beta$  (TGF- $\beta$ ) mutation.
- ▶ Increased risk for colonic adenocarcinoma.

# Juvenile Polyps

- ▶ Pedunculated
- ▶ Reddish lesions
- ▶ Cystic spaces on cut sections
- ▶ Dilated glands filled with mucin and inflammatory debris.
- ▶ Granulation tissue on surface.





# Peutz-Jeghers Syndrome

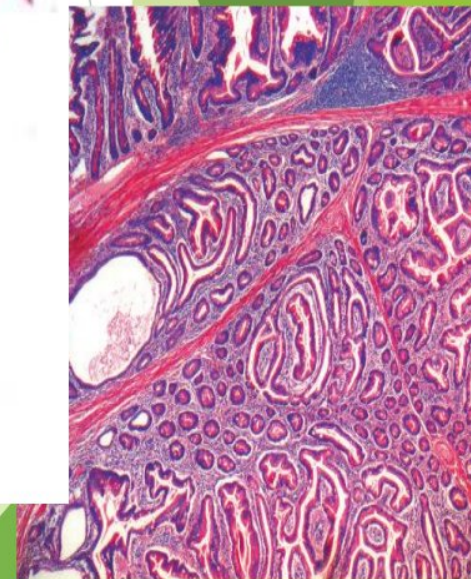
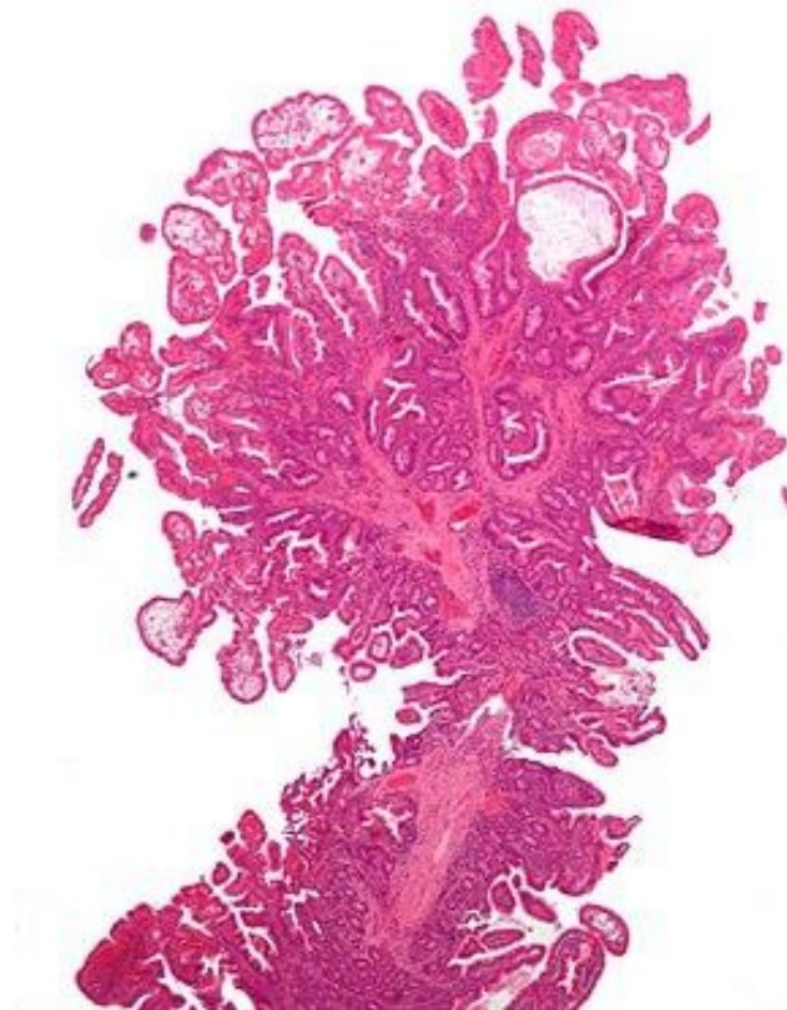
*Always they are syndromatic.*

- ▶ Autosomal dominant, rare
- ▶ Mean age: 10-15 years.
- ▶ Multiple gastrointestinal hamartomatous polyps → *normally as they are syndromatic.*
- ▶ Most common in the small intestine.
- ▶ Mucocutaneous hyperpigmentation
- ▶ Increased risk for several malignancies: colon, pancreas, breast, lung, ovaries, uterus, and testes,
  
- ▶ *LKB1/STK11* gene mutation.

# Peutz-Jeghers polyp

- ▶ Large.
- ▶ Arborizing network of connective tissue, smooth muscle, lamina propria
- ▶ Glands lined by normal-appearing intestinal epithelium
- ▶ Christmas tree pattern.

so we call them:



# Mucocutaneous pigmentation

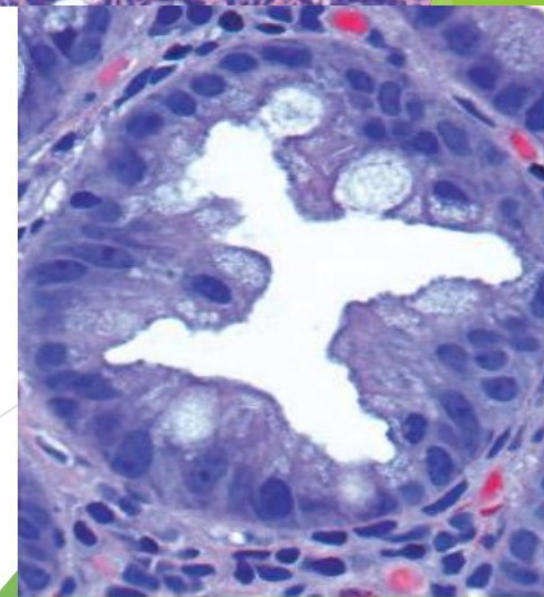
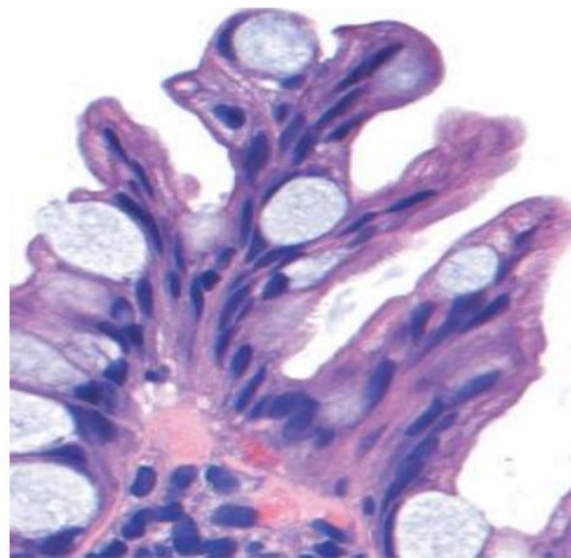
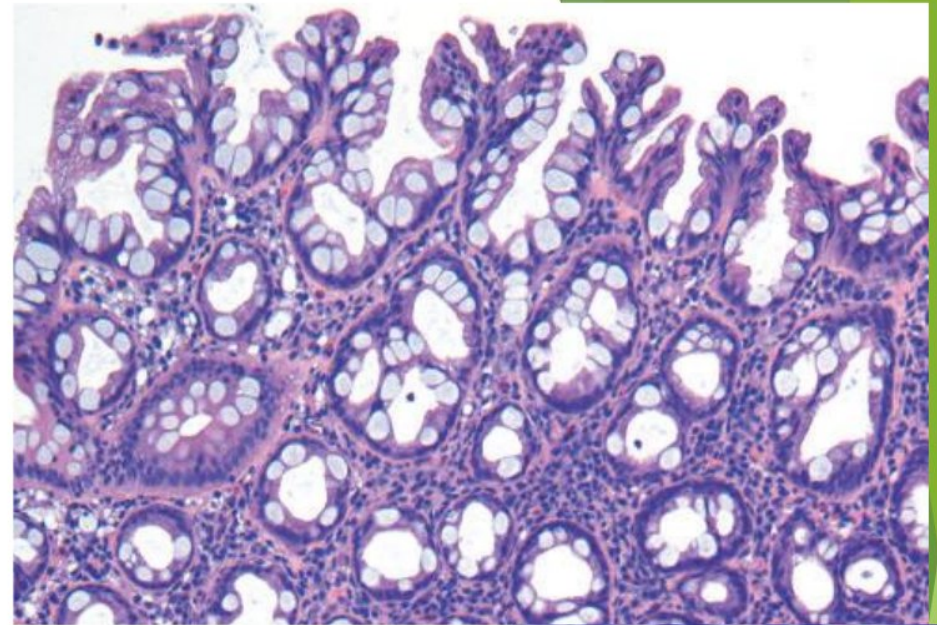


# Hyperplastic Polyps

- ▶ Common
- ▶ 5<sup>th</sup>-6<sup>th</sup> decade. *increase with age.*
- ▶ Decreased epithelial turnover and delayed shedding of surface epithelium >>> pileup of goblet cells & epithelial overcrowding  
*Low we see a lot of goblet cells.*
- ▶ No malignant potential

# Hyperplastic polyp

- ▶ Left colon
- ▶ Rectosigmoid.
- ▶ Small < 5 mm
- ▶ Multiple
  
- ▶ Crowding of goblet & absorptive cells.



الركتورة بقول: لزا بدكم رتسوا  
كل باه فكيته وتنكروا شي تنكروا  
**Adenomas**

- ▶ Most common and clinically important *as it can be cancer.*
- ▶ *Increase with age.*
- ▶ *Definition: presence of epithelial dysplasia (low or high).*
- ▶ Precursor for majority of colorectal adenocarcinomas
- ▶ *Most adenomas DO NOT progress to carcinoma.*
- ▶ *USA: screening colonoscopy starts at 50 yrs.*
- ▶ *Earlier screening with family history.*
- ▶ Western diets and lifestyles increase risk.

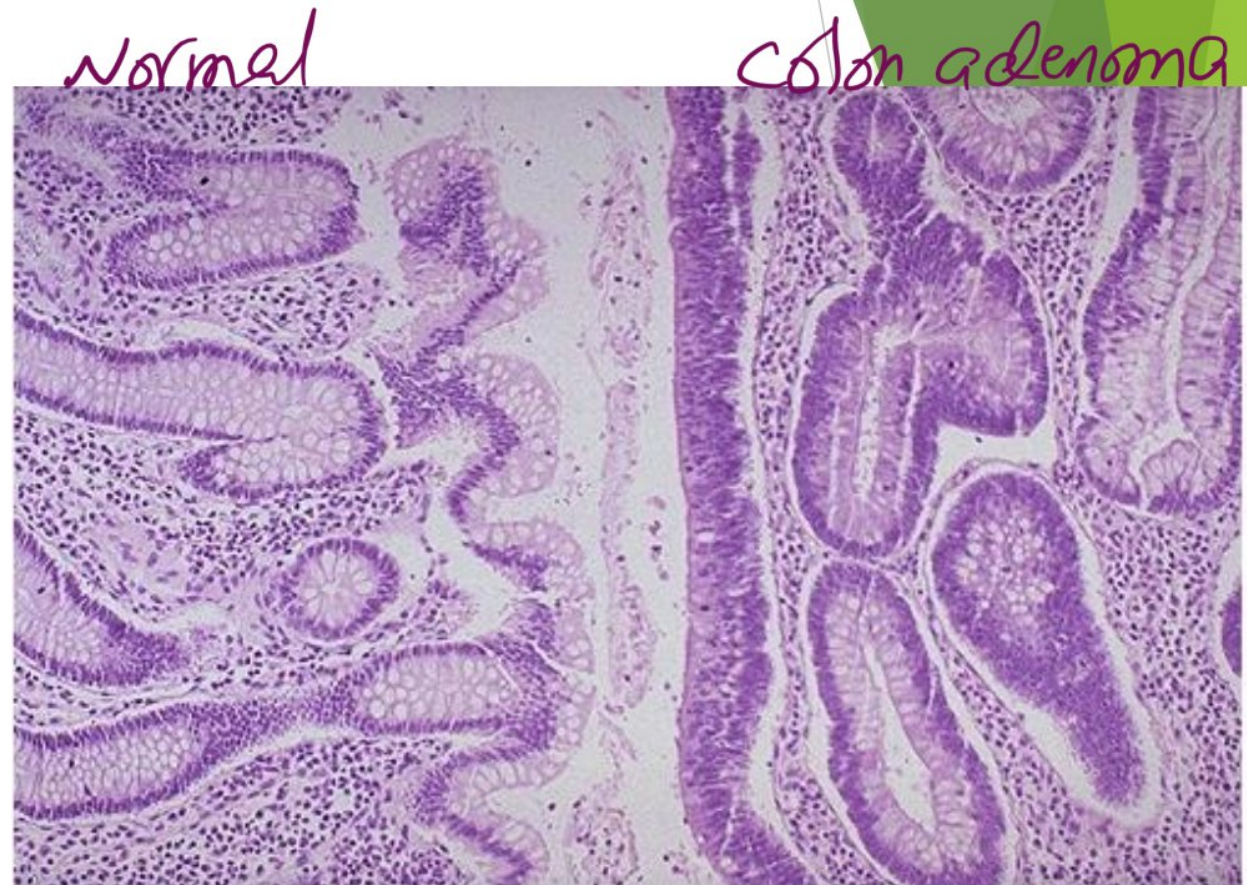
# Pedunculated or sessile

↳ just an appearance



# Colon adenoma

- ▶ Hallmark: epithelial **dysplasia**
- ▶ Dysplasia: nuclear hyperchromasia, elongation, stratification, high N/C ratio.
- ▶ Size : most important correlate with risk for malignancy  
*If we have two polyps, A → 5 cm in size  
B → 1 cm in size  
A → has high risk of malignancy*
- ▶ High-grade dysplasia is the second factor

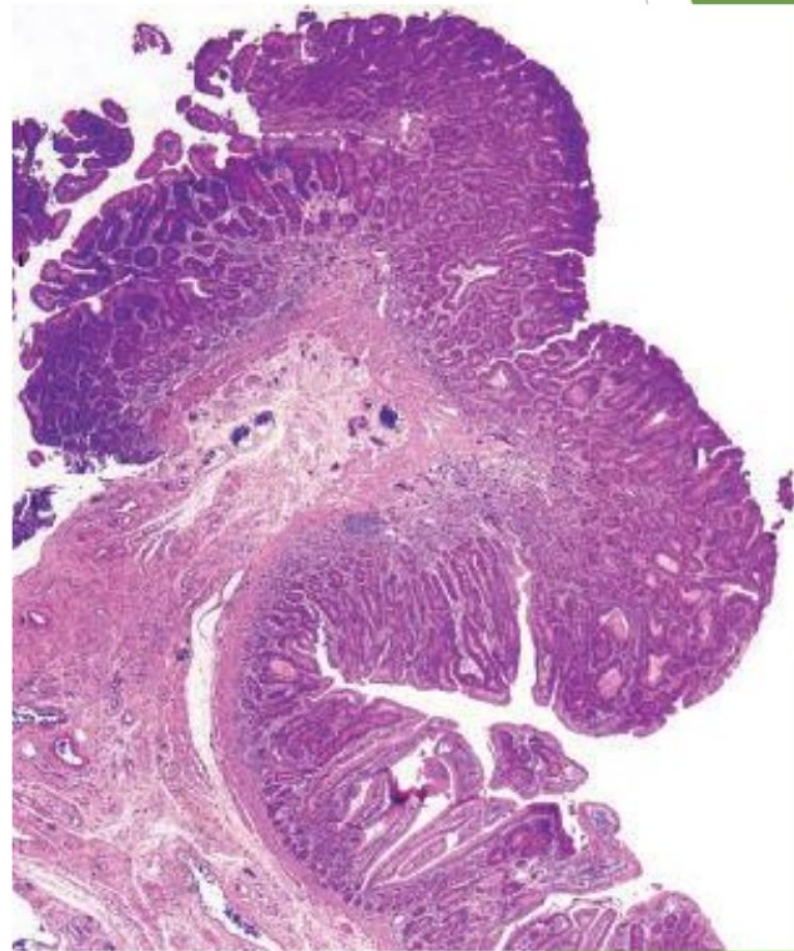
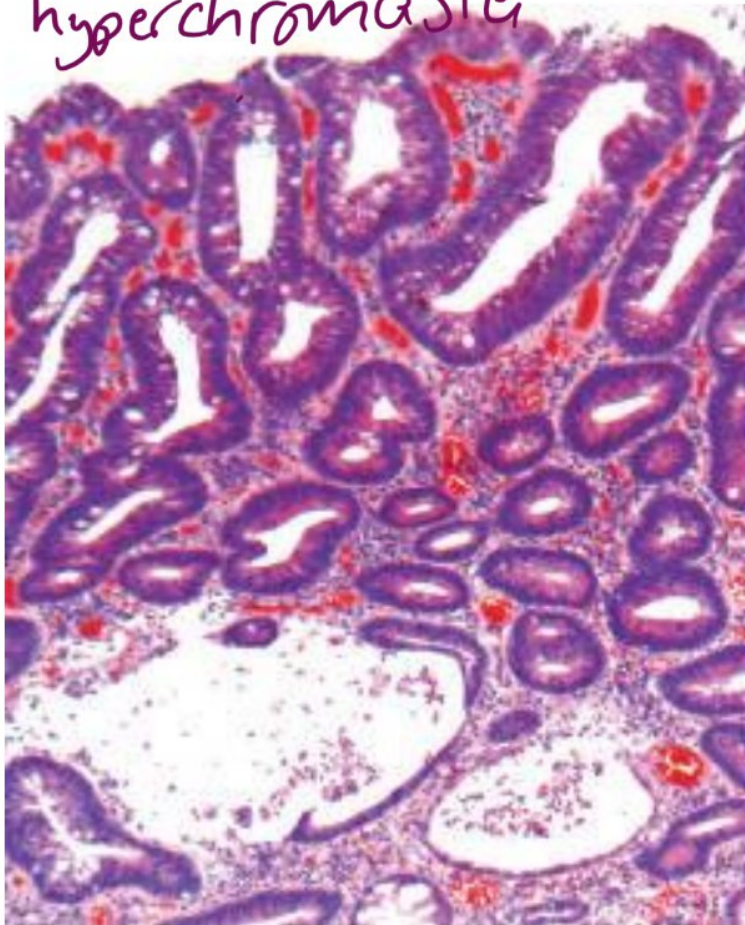




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## Tubular adenoma

hyperchromatic



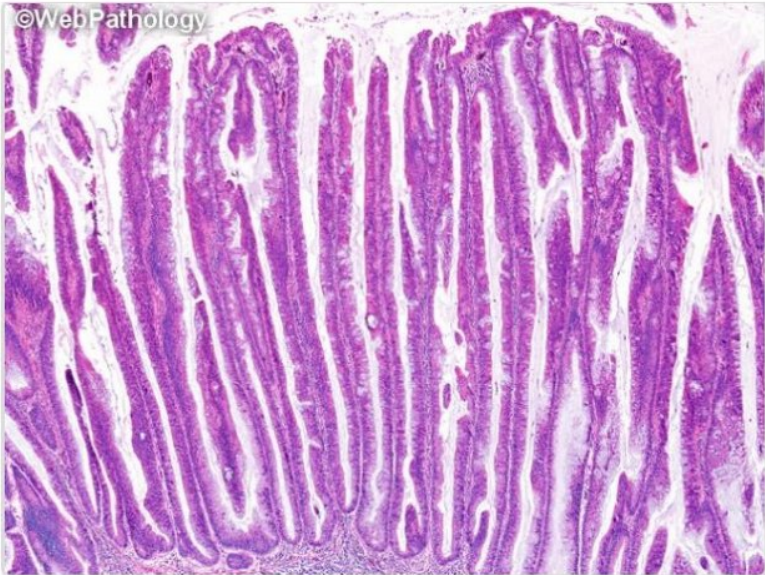
Poly

glands have to be dysplastic.



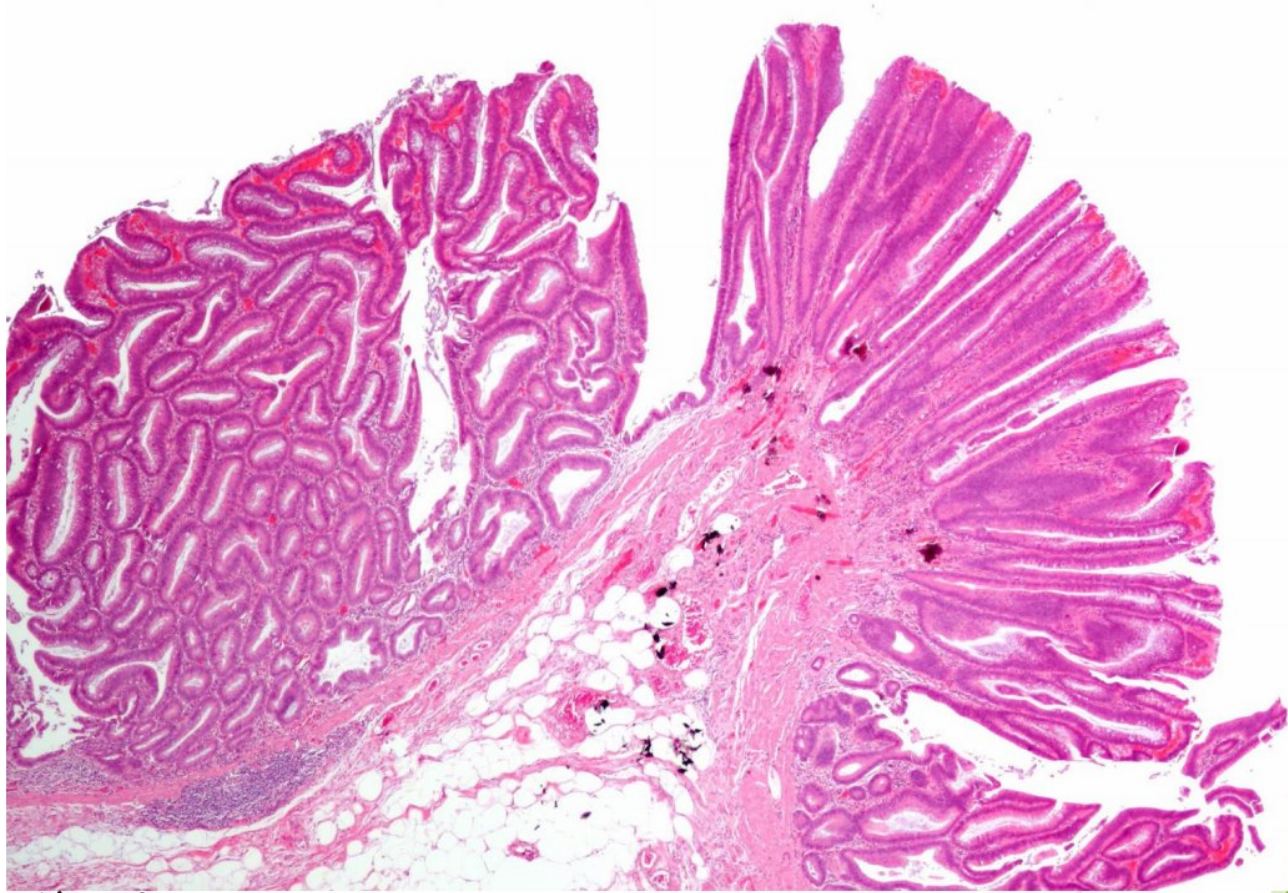
## Villous adenoma.

↳ as it is like the villi of the small bowel



- ▶ Long slender villi.
- ▶ More frequent invasive foci
  
- ▶ **Architecture:**
- ▶ Tubular.
- ▶ Tubulovillous.
- ▶ Villous.

## Tubulovillous adenoma



modified by: Rama Harb

you are welcome if there is any question!