COLONIC POLYPS.

A polyp is a growth arising out of the ↑ mucosa.

Polyps may be:
1. Pedunculated: with a well developed stalk.
2. Sessile: without a stalk.

The colon is the MC site of polyp in GIT.

Histopathology.

- Non Neoplastic: Inflammatory, Hamartomatous, Hyperplastic.
- Neoplastic / Adenomas: Tubular, Villous, Tubulovillous, serrated adenomas.

Inflammatory polyps.

→ Raised inflamed / regenerating epithelium.
→ Associated with solitary rectal ulcer syndrome, IBD, Ischaemic colitis, infections.
→ Impaired relaxation of anorectal sphincter
↓ sharp angle that damages ↑ rectal mucosa.
↓ repeated cycles of ulceration and healing.
↓ polyp formation.
→ Presents with rectal bleed and mucous discharge.

Hyperplastic Polyp

Most common (left).
60 - 70 years.
→ piling up of the epithelium (delayed cell turnover and delayed shedding)
→ No malignant potential.
Single / multiple.
Sessile < 5mm.
Elongated crypts with serrated / saw tooth appearance.

Hamartomatous Polyp

Hamartoma - A benign mass of disorganized tissue native to a particular anatomical site.

Hamartomatous polyps can occur as a part of syndrome - neoplastic potential and may need family screening.

Juvenile Polyps

Usually seen in children < 5 year.
→ Can be sporadic (solitary) or syndrome (juvenile polyposis)
Juvenile polyposis - AD inheritance with mutations in TGF-B signalling.
→ Multiple polyps (dozens) and

are associated with adeno carcinoma of colon and other site.

→ Usual location : rectum.
presents with rectal bleed.

M/c → edematous lamina propria with cystically dilated glands lined by cuboidal to columnar epithelium.
inflammatory cells.

Peutz - Jeghers Syndrome (P)

→ Rare AD disease with multiple GI hamartomas, mucocutaneous hyperpigmentation and risk of malignancies.

→ loss of function mutation is LKB1 / STK11.

→ Increased risk of cancers of colon, lung, pancreas, breast, ovary, testis, uterus.

→ Mc location of polyp : small intestine.

→ Median age - 11 years.

Gross → large pedunculated polyp with a lobulated surface.

microscopy → Distinctive papillary villous architecture with tree-like arborization of connective smooth muscle bundles and relatively normal overlying epithelium.

Neoplastic polyps

Adenoma.

Precursors to colorectal adenocarcinoma.

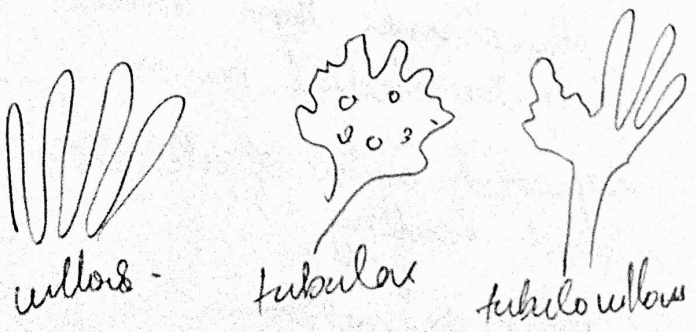
Growth pattern - flat / sessile / pedunculated.

Architecture - Tubular, tubulovillous, villous.

Size is the most important risk factor for carcinoma.

polyp >2cm, multiple, villous architecture, dysplasia
↳ development of cancer.

hyperproliferative
↳ adenomatous polyps
↓ some dysplasia
↓
adenocarcinoma.
↓
invasive cancer.



Adenomas will always show some degree of dysplasia.

Serrate serated adenoma

→ Right colon.
→ serrated polyp.
→ malignant potential.

Intramucosal carcinoma.

Familial Adenomatous Polyposis (FAP).

→ AD, numerous colorectal adenomas by teenage.
→ Mutation of APC gene in chromosome 5 (Adenomatous polyposis coli - APC).
→ classic FAP has atleast 100 polyps.
→ 100 % cases will develop adenocarcinoma if untreated.
→ Prophylactic colectomy is done.
→ Morphology of polyps is the same as that of sporadic.

Gardner syndrome.

A variant of FAP.
Osteomas of mandible skull and long bone.
→ epidermal cysts. (sebaceous cyst)
→ desmoid (fibromatosis).
→ thyroid tumors
→ Dental abnormalities, including unerupted and supernumerary teeth.

Turcot syndrome

Intestinal adenomas
tumours of central nervous system
→ Two thirds - APC gene mutations and develop medulloblastomas.
→ one third mutations in DNA repair genes develop glioblastomas.

VIVA

Hereditary Non Polyposis colorectal cancer. (Lynch Syndrom)

→ Associated defects in DNA mismatch repair genes.
→ Majority of HNPCC cases involve either MSH2 or MLH1
→ microsatellite instability
→ AD transmission.
increased risk of cancer of colorectum, small intestine, endometrium, stomach, ovary, uterus, brain, skin etc
→ younger age.
→ sporadic colon cancer is usually left sided, HNPCC favours right side.
→ Few adenomas and are usually serrate serrated adenomas rather than villous / tubular.

Familial colonic Neoplasia

Peutz Jeghers.

① Cowden syndrome.

↳ mutation of PTEN gene.

multiple hamartomous polyps
+ skin tumours + thyroid lesions.

② Tuberous sclerosis.

TSC1 9q34 gene.

Hamartomatous polyps.
+ renal tumours
+ angiofibroma
+ cortical tumours.