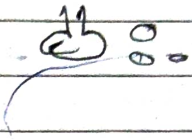
POLYPS OF COLON:

- A polyp is a growth Arising out of the mucosa.
Polyps may be: (A mass that Protrude into the lumen of the gut)
Pedunculated : with a well developed stalk
Sessile : without polyp stalk

Histopathology:



I ⇒ Non-Neoplastic - Inflammatory, Hamartomatous, Hyperplastic
II ⇒ Neoplastic / Adenomas - Tubular, Villous, Tubulovillous, serrated Adenomas.

Inflammatory Polyps:

⇒ Raised inflammed / regenerating epithelium.
⇒ Associated with solitary rectal ulcer syndrome, IBD, ischemic colitis, infections.
⇒ Impaired Relaxation of Anorectal sphincter → sharp Angle that damage & ulcerate Rectal Mucosa → Repeated cycles of ulceration & healing → polyp formation.
⇒ P/w Rectal bleed & Mucous discharge; inflammatory polyp. (triad)

Hyperplastic Polyp
→ mc
Most common left type series Rectum (left colon)
- Usually occur in 6th to 7th decade
- piling up of epithelium (↓ cell turnover & delayed shedding)
- No malignant potential
- Single / Multiple
- Sessile < 5 mm
- Elongated crypts with serrated (saw tooth appearance)
Appearance → smooth nodular protrusion of the mucosa.
Microscopy → expanded population of mature goblet & Absorptive cell.

Juvenile
Peutz, Jeghes plyp

Hamartomatous Polyp: - (Race tumor like growth)

- Hamartoma - A benign mass of disorganized tissue native to a particular Anatomical site.
- Hamartomatous polyps can occur as part of a syndrome
  - neoplastic potential
- They may be Associated with intestinal and extraintestinal manifestations.

Juvenile Polyp: (most common type)

- Usually seen in children < 5 years
- can be sporadic or syndrome (juvenile polyposis)

AD inheritance with mutation in TGF-β signalling

- multiple polyps are associated with adenocarcinoma of colon & other sites.
- Usual location, Rectum, presents with Rectal bleed.

GROSS - pedunculated, spherical, smooth-surface Red in color.

Microscopy

→ edematous lamina propria with cystically dilated gland lined by cuboidal or columnar epithelium with mixed inflammatory infiltrates.

Peutz-Jeghers syndrome

- Rare AD disease with multiple GI hamartomas, mucocutaneous hyperpigmentation & Risk of Malignancies
- ⇒ Germline Loss of function mutation in LKB1 / STK11
  - ↑ Risk of colon of cancer, lung, pancreas, ovary, Testis
  - Site: location of polyp, small Intestine
  - Median Age - 11 years

Grossly → Large, pedunculated polyp with lobulated surface

→ presents dozen

seen in SI

Microscopy

→ Destructive Papillary villous Architecture with tree-like Architecture and Arborization intermixed with lamina propria
– hyperplastic mature epithelium divided by broad bands of mature smooth Muscle

Neoplastic polyps : Adenoma

→ Precursor to colorectal adenocarcinoma
1) → Growth pattern – Flat/sessile/pedunculated
2) → Architecture – Tubular / Tubulovillous / villous.

Size is the most imp Risk factor for carcinoma
– Polyp > 2cm, Multiple, villous Architecture, Dysplasia, Development of cancer

Adenomas → Tubular
→ villous
→ Tubulovillous.

Sessile Serrated Adenoma
– Right colon
– Serrated polyp (hyperplastic polyp)
– Malignant polyp. donot show dysplasia

Familial Adenomatous Polyposis (FAP)

AD, numerous colorectal Adenoma by teenage
Mutation of APC gene in chr 5
Clinical FAP has at least 100 polyps.
Prophylactic colectomy is done
Morphology of polyps is the same as that of sporadic Adenomas
If untt → develop CA colon.

APC – Adenomatous polyposis coli gene

Variants

GARDNER SYNDROME
- Variant of FAP
- epidermal cysts
- Osteoid
- Thyroid tumors
- Dental abnormalities, including unerupted & supernumerary teeth

Turcot syndrome:
- colorectal Adenomas
- tumor of the central nervous system
- 2/3rd APC gene mutation ⇒ develop medulloblastoma
- 1/3rd mutation in DNA Repair gene develop glioblastoma

Lynch syndrome (Hereditary Non Polyposis colorectal cancer)
HNPCC

- Associated defect in DNA mismatch Repair gene (MMR)
- Most of HPCC cases involve either MSH2 or MLH1
- Microsatellite Instability.
- AD transmission, ↑ Risk of cancer of colorectum.
- Younger Age
- Few Adenomas ⇒ are usually small isolated Adenomas.
- Sporadic colon cancer is usually left

⇒ Cowden syndrome
mutation → PTEN gene
⇒ Juvenile Polyposis → MFC1

MORPHOLOGY OF NEOPLASTIC POLYPS:

⇒ General features: Site almost 50% all adenomatous polyps of colon located in Rectosigmoid Region.

⇒ Macroscopy: All colorectal Adenomas are low grade dysplastic lesions

TUBULAR ADENOMAS:

Constitute 3/4th the Adenomas of LI

⇒ Appear as small, smooth-surfaced, pedunculated polyps. less than 2cm.

Micro ⇒ closely packed small Rounded or tubular glands embedded in stroma. They may show variable degrees of epithelial dysplasia.

VILLOUS ADENOMAS (Villous Papilloma)

⇒ predominantly found in the Rectosigmoid Region.

⇒ Gross: Large, broad-based, sessile (cauliflower like surface)

Micro ⇒ thin long finger like projections, significantly resemble the villi of the SI

⇒ They contain foci of carcinoma more commonly than tubular Adenoma

TUBULOVILLOUS ADENOMAS ⇒ mixture of both 75% will be villous type