TUMORS OF COLON AND RECTUM

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Tumors of the colon & rectum

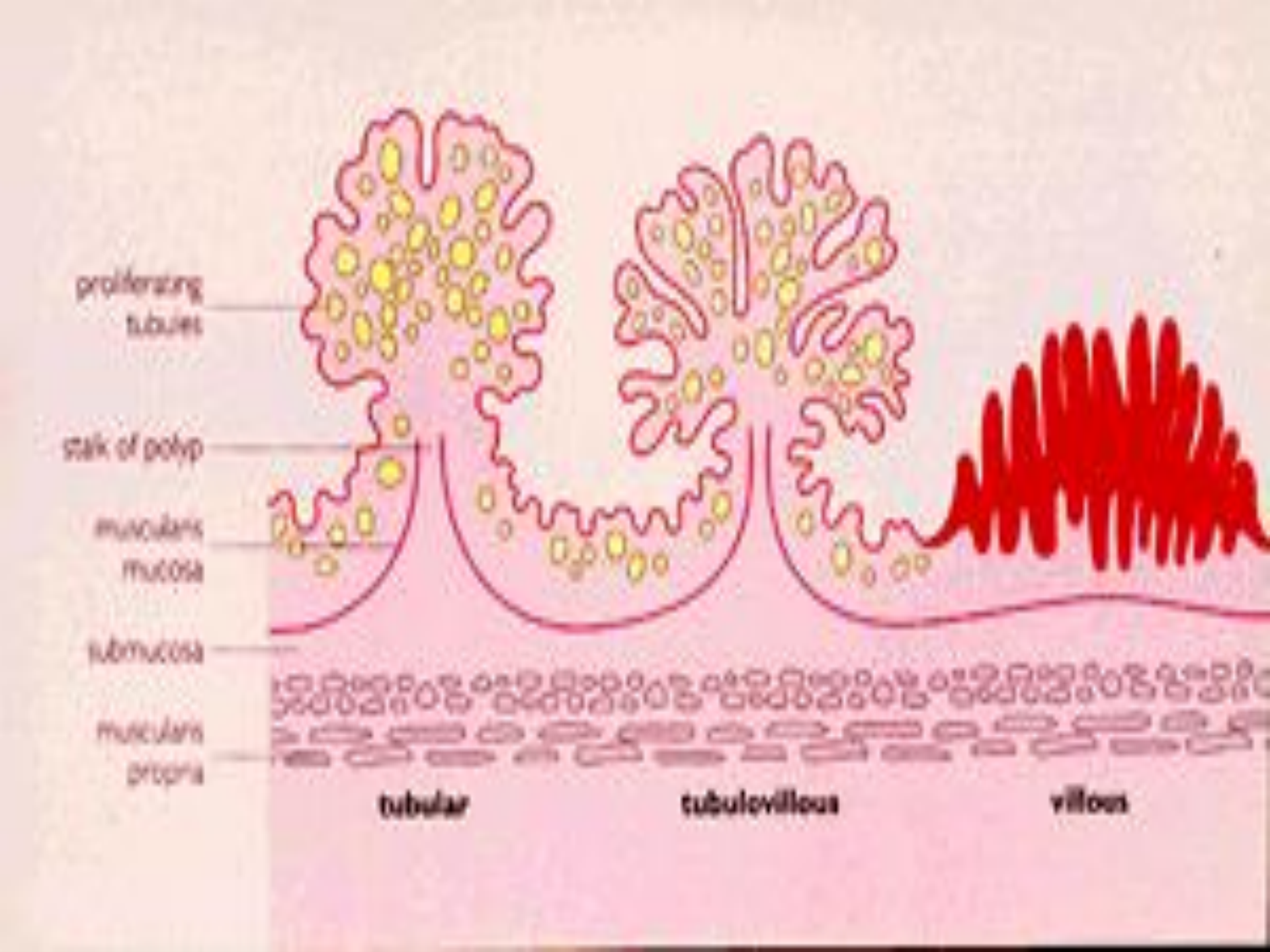
Polyps & Polyposis syndrome:

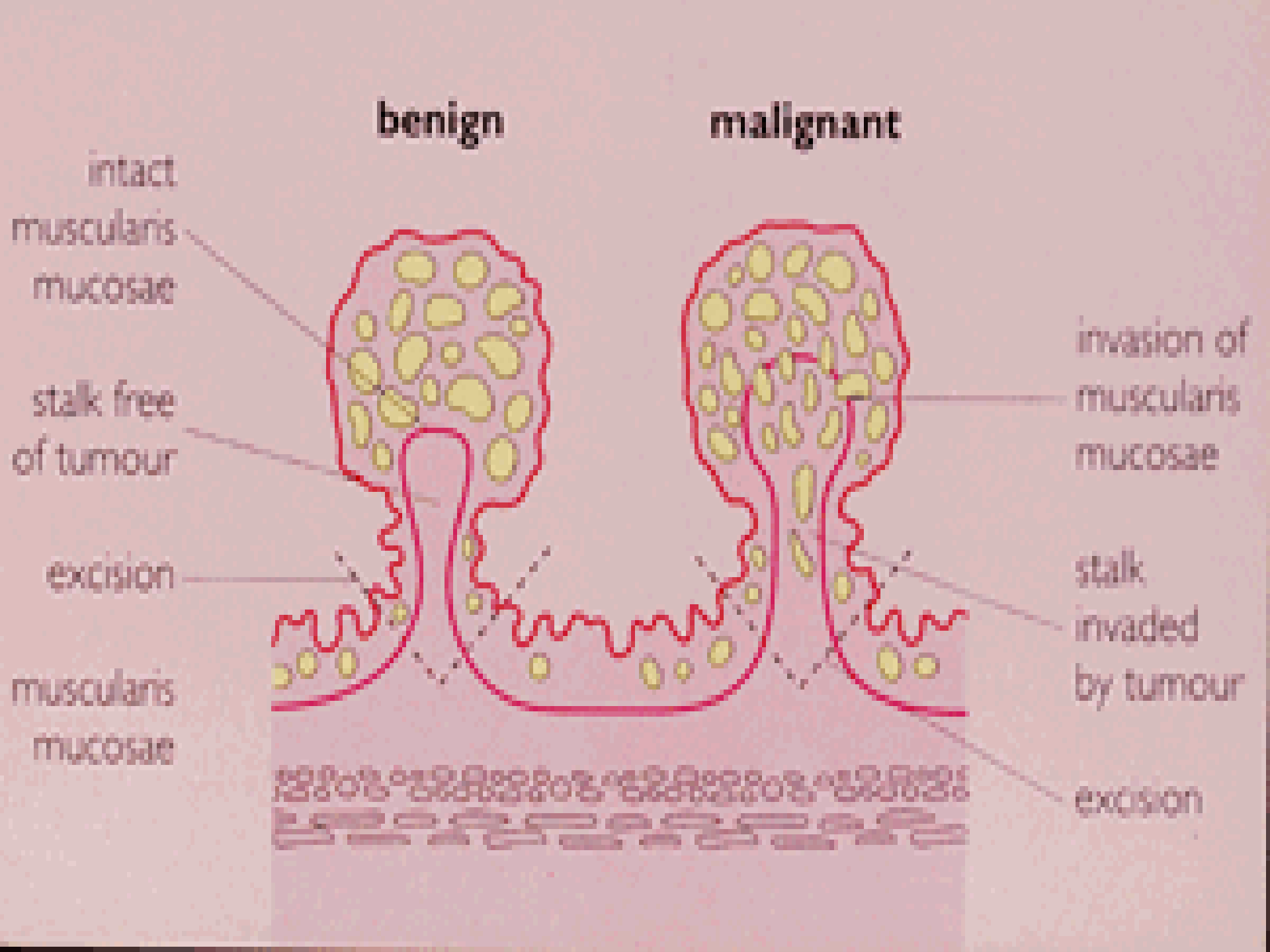
Non-neoplastic:

- Hamartoma , Metaplastic , inflammatory.

- Colorectal adenoma 50% over 60 years.

Histology: Tubular , villous or tubulovillous.


proliferating tubules
stalk of polyp
muscularis mucosa
submucosa
muscularis propria
tubular
tubulovillous
villous


benign
malignant
intact muscularis mucosae
stalk free of tumour
excision
muscularis mucosae
invasion of muscularis mucosae
stalk invaded by tumour
excision

- **Nearly all forms of colorectal carcinoma develop from adenomatous polyps over 5-10 years.**

➢ Risk for malignancy in polyp:

-Large size > 2cm.

-Multiple polyps.

-Villous architecture.

-Dysplasia.

Clinical presentation

- Usually asymptomatic
- GI bleeding.
- Anemia.

- Villous adenoma some times secrete large amount of mucus lead to diarrhea & hypokalaemia.

- Carcinoma transformation.

Treatment:

Polypectomy followed by surveillance colonoscopy at 3-5year intervals.

Very large or sessile polyps can sometimes be removed safely by Endoscopic Mucosal Resection (EMR) & if not by surgery.

Between10-20% of polyps show histological evidence of malignancy.

When cancer cells seen within 2mm of the resection margin of the polyp , when the polyp cancer is poorly differentiated or when lymphatic invasion is present segmental colonic resection is recommended.

Familial Adenomatous Polyposis(FAP)

- **AD**
- **Extra intestinal features:**
  - **Subcutaneous epidermoid cysts.**
  - **Lipoma.**
  - **Benign osteoma.**
  - **Desmoid tumour.**
  - **Dental abnormality.**
  - **Congenital hypertrophy of the retinal epithelium.**

Clinical syndromes

- Gardner ,s syndrome.
- Turcot ,s syndrome.
- Attenuated FAP.

Diagnosis:

- Genetic analysis for 1st degree relatives
- Colonoscopy.

Treatment:

Colectomy& ileal pouch anal anastamosis

Peutz-Jeghers syndrome

- **Is characterized by multiple hamartomatous polyps in small intestine & colon , as well as melanin pigmentation of the lips , mouth & digits.**
- **Most cases are asymptomatic, although chronic bleeding , anemia or intussusception can be seen.**

- **There is increased risk of carcinoma of small intestine & colonic adenocarcinoma and carcinoma of the pancreas , lung, ovary ,breast and endometrium.**
- **It is autosomal dominant.**
- **Diagnosis required 2 of the following:**
- **Small bowel polyposis.**
- **Mucucutanous pigmentation.**
- **Family history suggesting autosomal dominant inheritance.**

Colorectal cancer

Etiology:

- **Environmental:**

- **Dietary:**

✓ **Increased risk: Red meat.**
Saturated animal fat.

✓ **Decreased risk: dietary fiber.**
fruits & vegetables.
Ca
Folic acid.
Omega 3 fatty acids.

Non dietary

✓**Medical conditions:**

--Colorectal adenoma.

--Long lasting extensive UC or Crohns especially when associated with Primary Sclerosing Cholangitis.

--Acromegaly.

-- pelvic radiotherapy.

--Uretrosigmoidostomy

✓Others:

--Obesity& sedentary life style

-- Alcohol & Tobacco.

--Cholycystectomy

--Type 2 DM

--Use of aspirin NSAIDs (COX-2 inhibitor),Statins associated with reduced risk

- Genetic factors:

  FAP 1%

  10% +ve FH.

  HNPCC (Lynch ،s syndrome) AD

Criteria for diagnosis of HNPCC

- 3 or more relatives with Ca colon.
- Colorectal cancer in 2 or more generations
- At least one member affected < 50y.
- Exclusion of FAP.

Management:

- Pedigree assessment.
- Genetic testing.
- Colonoscopy

Pathology

- **Polypoidal & fungating.**
- **Annular & constricting.**

- **>65 % in recto-sigmoid.**

- **15% in Caecum & ascending colon.**

Clinical features:

Left sided colonic tumours:

- Intestinal obstruction
- Bleeding per rectum.

Right sided colonic tumours:

- Anaemia & occult GI bleeding.
- Altered bowel habits.
- 10% Fe deficiency anaemia & weight loss.

On Examination

- Palpable mass.
- Signs of anaemia.
- Hepatomegaly (secondaries).
- PR: Palpable rectal tumour

Investigations

- Colonoscopy.
- Endo anal U/S.
- Pelvic MRI.
- CT Colography (Virtual Colonoscopy).
- CEA.

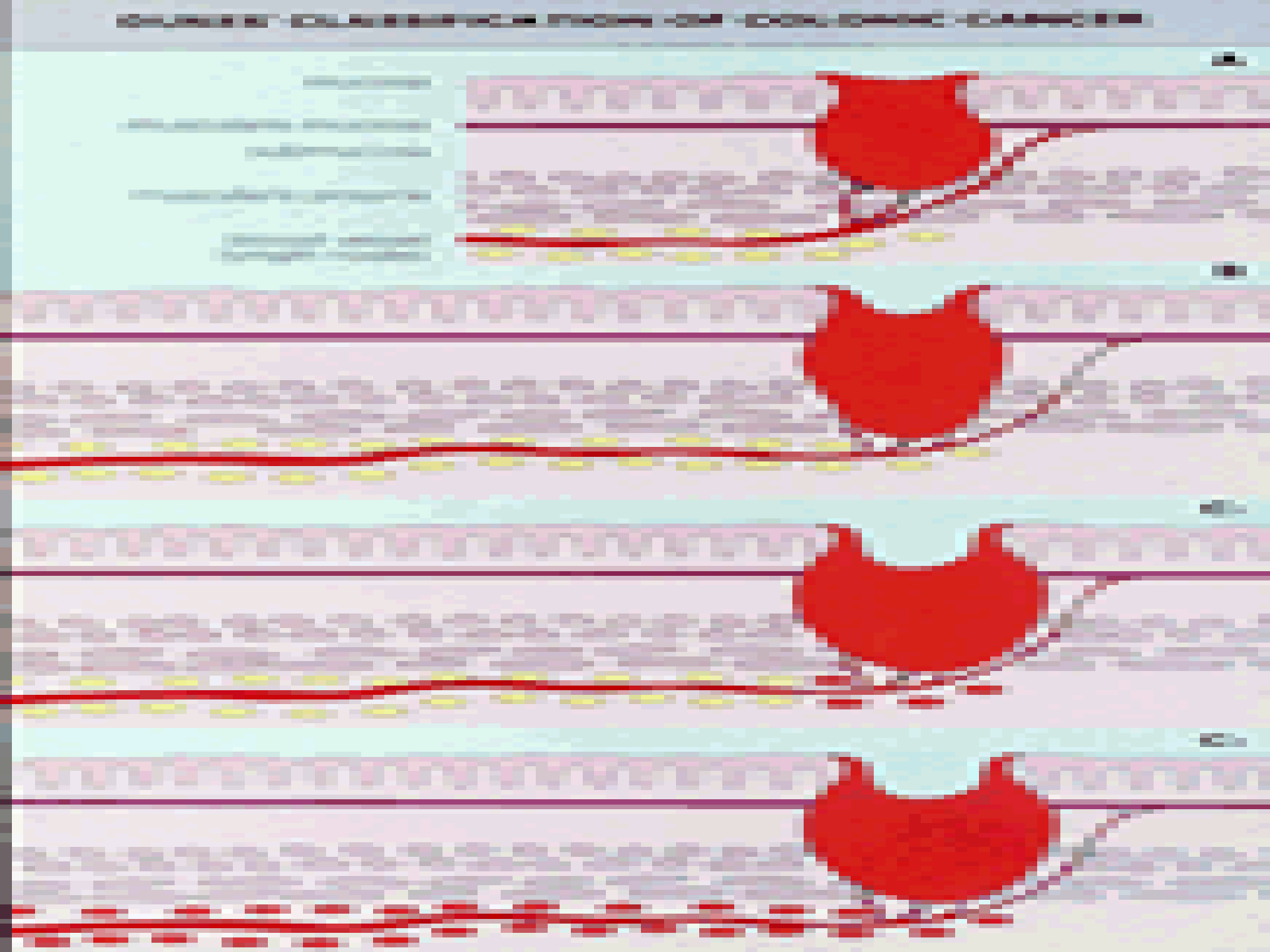
Modified Dukes classification:

A-T confined to bowel wall 5y survival is >90%.

B-T extend through bowel wall 5y survival is >65%.

C-T involving LN ,5ys is 30-35%.

D-Distant metastasis , 5ys is < 5%.



Management

- Surgery followed by colonoscopy every 6-12 months.

- Chemotherapy:5FU+Folonic acid for Duke C.
- Radiotherapy: preoperative for large fixed rectal tumour , Dukes B &C rectal T postoperatively to decrease recurrence.

Prevention:

- **Chemoprevention:**
  - **Aspirin.**
  - **Calcium.**
  - **Folic acid.**
  - **Selective Cox.2 inhibitors.**

- **Secondary prevention:**
  - **Fecal occult blood :annually after 50y.**
  - **Colonoscopy.**
  - **Sigmoidoscopy: every 5y for those > 50y.**
  - **Molecular genetic analysis.**

Acute colonic Ischemia

- Splenic flexure & descending colon (Water shade areas).
- Pathology: Reversible colopathy.

  Transient colitis.

  Colonic stricture.

  Gangrene & fulminant pan colitis

Etiology: Arterial thromboembolism.

Decreased BP.

Colonic Volvulus.

Strangulated hernia.

Hypercoagulable state.

Clinical features

- **Old patient with H/O sudden onset of cramping left sided abdominal pain + rectal bleeding ,usually resolve within 1-2 days spontaneously or fibrous stricture may develop or segment of colitis or gangrene & peritonitis.**
- **Diagnosis: Colonoscopy**

  Barium enema.