SURGERY OF THE INTESTINE (4)

By

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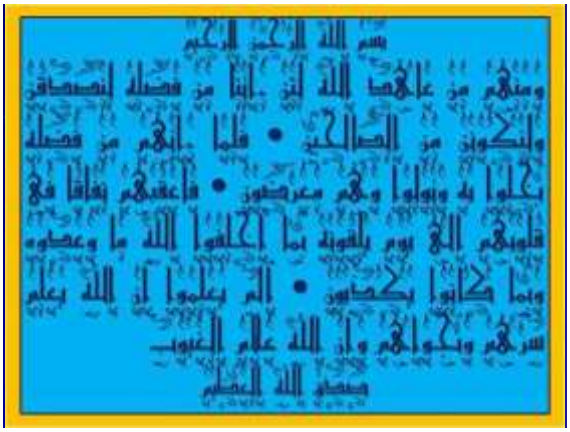


Inflammatory bowel conditions

(1)Regional enteritis (Crohn's disease)

(2)Tuberculosis

(3)Ileocaecal actinomycosis

(4)Bilharzial colitis

(5)Ulcerative colitis

(6)Pseudomembranous enterocolitis

Regional Enteritis (Crohn's Disease)

Chronic cicatrizing granulomatous inflammation of the GIT of unknown cause, common in males, more in jews.

Aetiology: ? an abnormal cell-mediated immune response.

Pathology: affect any site of GIT, but commonly affect the ileum (in 80%) ------- Ileo-caecal Crohn's. Skip areas are common, the segment is swollen, congested, oedematous, thickened, and contains enlarged L.N. that never caseate nor calcify (DD: TB), ------- long standing cases (chronic type) with creeping of mesenteric fat, multiple adhesions, fistulae, oedematous submucosa, with fissured mucosa (characteristic cobblestone appearance), massive fibrosis with exacerbation and remission.

C/P: very variable – remission and exacerbation

*-Abdominal pain, ? Palpable mass

*-Diarrhoea (in 90%) ?? Stagnant loop syndrome

*-Fever ? Internal abscess ? abnormal toxins

*-Malnutrition *-Anorectal lesions

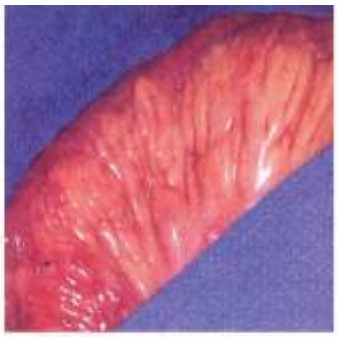
*-Systemic complications e.g erythema nodosum, ankylosing spondylitis, polyarthritis, uveitis, vasculitis, recurrent portal pyemia.

Diagnosis:

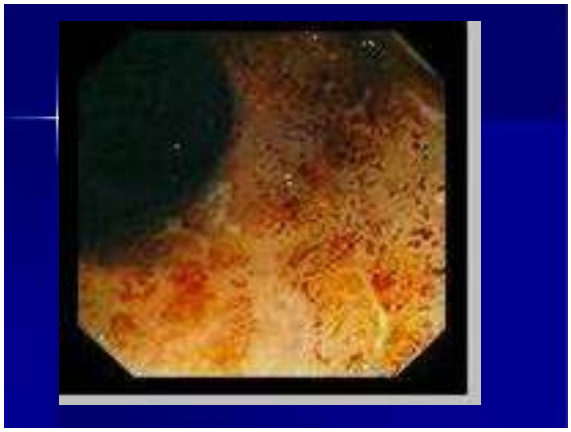
X-Ray ex.→ String sign of Kantor, obstruction

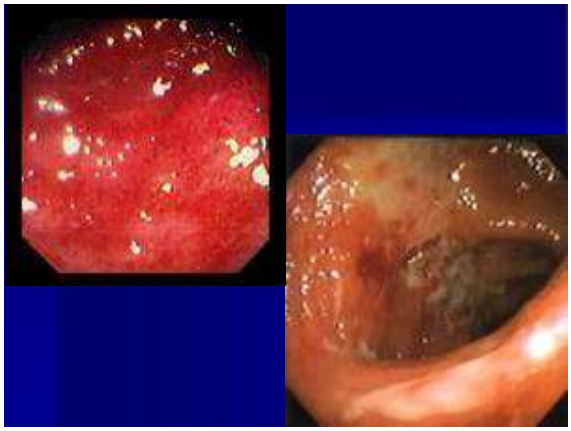
Colonoscopy →characteristic cobblestone appearance

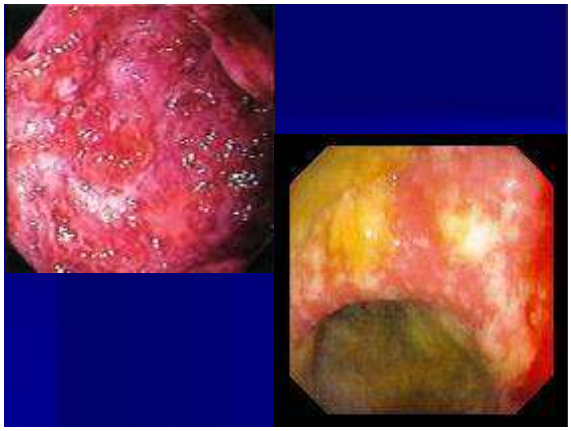
Biopsy →sarcoid foci

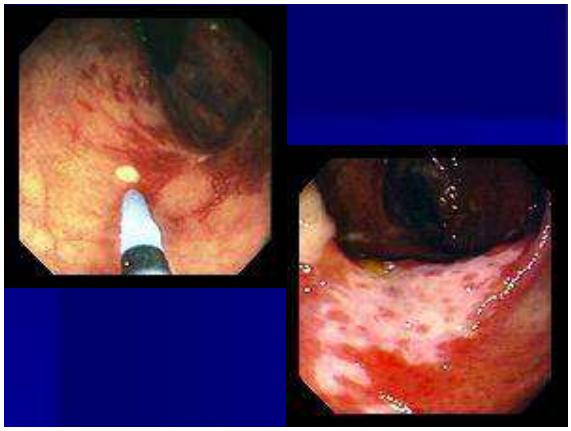


Crohn's disease. This intraoperative photograph demonstrates encroachment of mesenteric fat onto the serosal surface of the intestine ("fat wrapping") that is characteristic of intestinal segments affected by active Crohn's disease.









Treatment:

(I) Medical ttt:

***-High protein, low residue, low fat diet**

***-symptomatic ttt for pain, and diarrhoea**

***-Antibiotics ?? *-Steroids ?? *-Immunosuppressives**

(II) Surgical ttt: (High risk must be anticipated)

-Persistant active disease - Complications

Resection of the diseased segment with anastomosis and meticulous post-operative observation with massive therapy e.g immunosuppressive ???

Tuberculosis

(I) Ulcerative tuberculous enteritis

(II) Hyperplastic ileocaecal tuberculosis

Actinomycosis (Ileocaecal)

Bilharzial colitis

Ulcerative colitis

A diffuse inflammatory disease of unknown aetiology affects the mucosa and submucosa of the colon and rectum

Common in western countries, higher in Jews, lower in negroes, M:F 5:4, third or fourth decades

Aetiology: ?? *-Infection *-Psychosomatic disorder *-Allergy *-Autoimmunity

Pathology: Rectum is affected in nearly all cases, and spread proximally to a variable distance of the colon, and the affected areas are contiguous, and skip lesions do not occur (D.D: Crohn's disease)

Mucosal ulcers (crypt abcesses ➞microulcers), pseudo-polyposis, submucosal fibrosis with colon shortening, the mesocolon remains thin and lymph nodes not enlarge (D.D: Crohn's disease)

C/P: The cardinal symptoms are watery diarrhoea, cramping abdominal pain and rectal bleeding

(1)- Acute fulminating stage:

acute fever, diarrhoea, severe abd. Pain, cramps, bloody stool with pus and mucous, tenesmus & dehydration

(2)-Chronic intermittent stage:

Exacerbation occur at variable intervals with complete freedom from symptoms in between, triggered by emotional stress, physical fatigue, acute infection, dietary disturbance, the use of antibiotics and laxatives ➞ wasting, dehydration, anaemia, vitamin deficiency, anal fissures and fistulae (non anatomic , recurrent, multiple)

(3)-Chronic fibrotic stage.

Diagnosis:

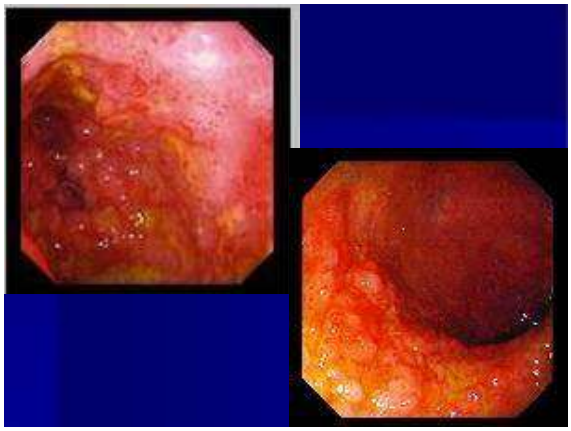
*-Sigmoidoscopy: granular mucosa with small tiny ulcers, with dull mucosa in between containing polyps (pseudo-polyposis)

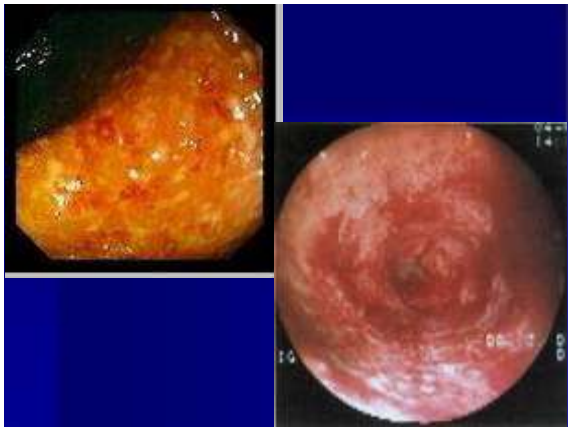
*-Biopsy is diagnostic (Crypt abscesses)

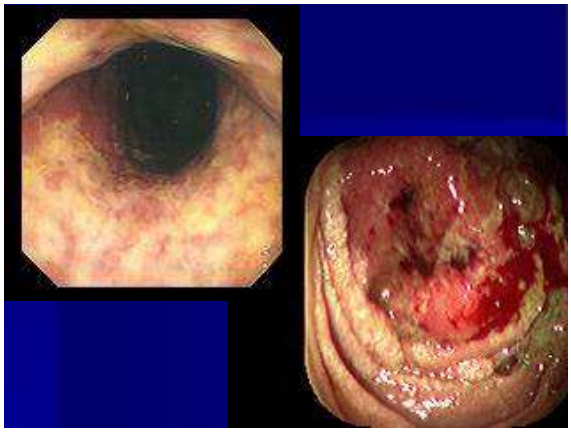
*-Barium enema examination: it should not be performed in acute cases as it may precipitate dilatation (toxic megacolon) ➞mucosal irregularities, shortening, and narowing of the colon with loss of haustrations (lead pipe appearance), multiple filling defects (polyps)

Complications:

(I) Local: perforation, toxic dilatation, massive bleeding, fibrotic strictures, perianal abcesses and fistulae,…….colon carcinoma (precancerous).







(II) Systemic

*-Skin lesions: erythema nodosum, polyderma gangrenosum

*-Eye complications: conjunctivitis, iritis, uveitis

*-Joint lesions: arthralgia, arthritis, ankylosing spondylitis.

*-Liver changes: fatty liver, hepatitis, cirrhosis, sclerosing cholangitis.

*-Renal glomerular changes.

*-Deep venous thrombosis.

*-Malnutrition, electrolyte disturbance, anaemia, hypoprotenaemia, avitaminosis.

*-Retarded growth,

Treatment: Mainly medical, operation is rarely indicated

(I) Medical ttt :

*-Anti-diarrhoeal agents: e.g codeine, diphenoxylate (lomotil), domperidone (motilium), loperamide (imodium)

*-Intestinal antiseptics e.g salicyl-sulfapyridine (salazopyrine), mesalazine (asacole, pentasa)

*-Corticosteroids e.g cortisone and ACTH: improves general condition, increase appetite, and enhance remission administered orally, parentrally, retention enemata, or rectal drip

*-Supportive therapy: e.g fluids, blood transfusion, plasma, protein hydrolysates, iron, and vitamins

*-Dieting e.g high caloric diet rich in proteins and carbohydrates low in fat and residue ? Milk-free

*-Immunosuppressive therapy e.g azathioprim

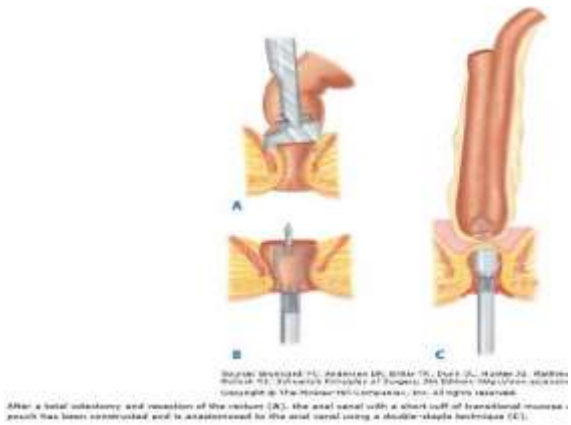
(II) Surgical ttt : rarely indicated, as 75-80% of cases are satisfactory with medical ttt and surgery is needed to save life as in :

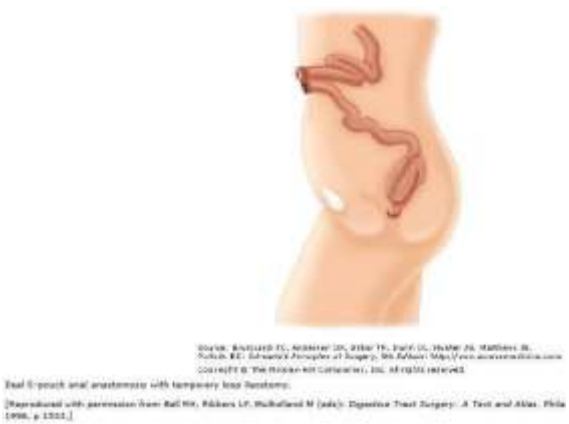
*-Acute attacks failed to respond to intensive medical therapy

*- Complications as perforation, massive hemorrhage, or toxic dilatation

*- Elective indications as chronic continuous symptoms, frequent disabling attacks, fibrous stricture, fistulae formation, colon carcinoma, or developmental retardation

The ideal procedure is total proctocolectomy with terminal ileostomy (other options ???)





Tumours of the small intestine

Tumours of small intestine either benign or malignant are uncommon and of equal frequency , but colon tumours are 40 times more common

Benign tumours

About 15% in duodenum, 25% in jejunum, and 60% in the ileum

Several histological types are encountered but the commonest are adenoma, leiomyoma, lipoma, fibroma, and haemangioma

C/p: Silent, however obstruction may occur, or melena

Treatment: Local excision

The Peutz-Jegher's syndrome: A rare condition of small intestinal familial polyposis, spots of melanine pigmentation on lips, oral mucosa, palm, and soles (Ca.?)

Malignant tumours

Very rare about only 2% of malignant GIT tumours

1- Adenocarcinoma: →the commonest , usually annular stricture in the jejunum

2- Carcinoid tumours: most often in the terminal ileum

3- Lymphoma: usually multicenteric, usually the terminal ileum →weigh loss, steatorrhoea, fever, anaemia, obstruction, and may perforates

4- Sarcoma: the rarest, usually affect children(? Leimyosarc.)

C/P: obstruction ttt: wide resection +LN dissection

Carcinoid tumour (Argentaffinoma)

Occur any where in the GIT, also in biliary tract, pancreas, ovary, and bronchus

Pathology: Arises from Kulschitzky cells in the crypts of Lieberkuhn → a yellowish firm nodule 46% in appendix, 28% in the ileum, and 17%in the rectum

Metastases and carcinoid syndrome are extremely rare in appendix and rectum but very common in small bowel and colon

Mostly benign , however some larger tumours may be malignant and metastasized usually by lymphatic and portal rout and usually larger than the primary tumour.

C/P: Similar to presentation of small bowel tumours but in 10% of patients," Malignant Carcinoid Syndrome" occurs

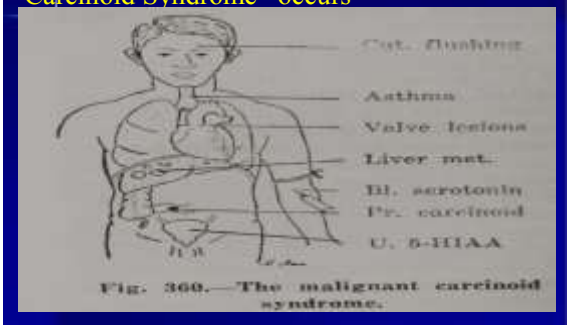


Fig. 360.—The malignant carcinoid syndrome.

Pathogenesis: The active substances secreted by the tumor to blood e.g 5-hydroxytryptamine (serotonin), 5-hydroxytryptophan, catecholamines, histamine, bradykinines, prostaglandin, ACTH, and calcitonin. Serotonin is derived from amino acid' Tryptophan' and metabolized in the liver to 5-hydroxy indol acetic acid (5-HIAA) that is secreted in urine, so carcinoid tumour drained by portal system may not produce the syndrome even if it elaborated large amount of serotonin as it is metabolized

Diagnosis: *- Scan *- Biopsy
*-Flush induction *-Urinary 5-HIAA

Treatment: Excision Control the syndrome by ttt

Tumours of the colon

Benign tumours: I- Epithelial tumours

1-Juvenile (retention or mucous) polyp: children - usually single – always pedunculated – commonly in rectum→bleed. – never turn malignant – easily excised

2-Villous (papillary) adenoma: rectum and sigmoid – age ↑45 – sessile bulky soft mass with frond-like projection – often precursor of papilliferous carcinoma – bleeding and mucous – (watery mucoid stool, severe muscle weakness, weight loss) complete local excision – colonic resection ?? advised

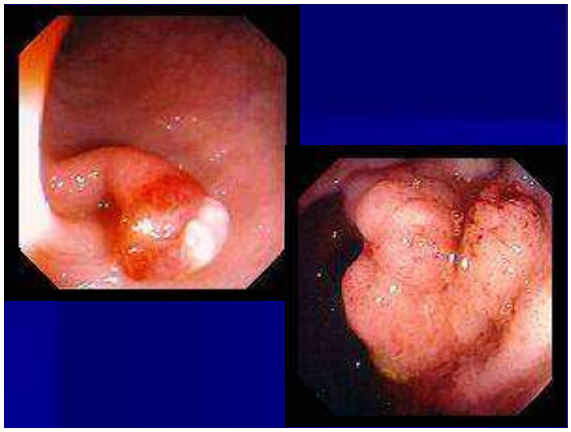
3-Adenomatous polyp: the most common neoplasm of rectum and colon – 70% in rectum and sigmoid – pedunculated with irregular surface – rarely precancerous – bleeding,anaemia - Colonoscopic excision

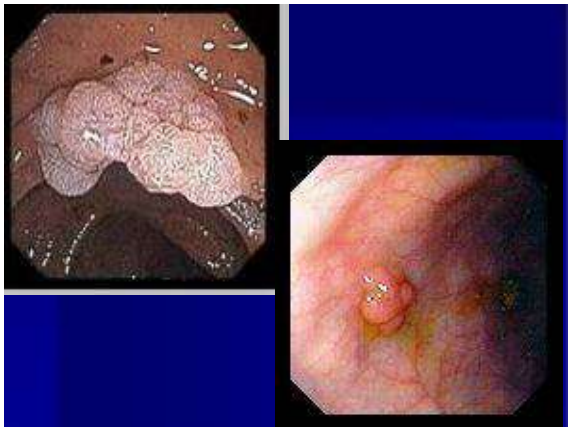
4-Familial polyposis: rare hereditary disease –large polyps in rectum and colon before puberty wit carcinoma before 40 years (FAP gene) – sessile or pedunculated – malignancy started in the polyp or hyper plastic mucosa in between ➜diarrhea, pain, tenesmus, passage of mucous and blood in stool, anemia, weight loss,general debility – ttt is by total or subtotal colectomy before the age of 30 years

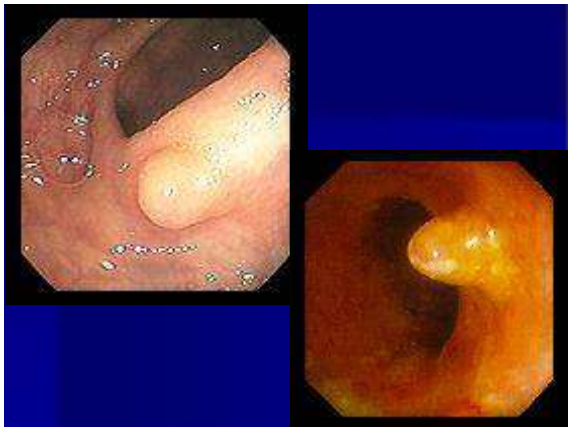
5-Gardner's syndrome: a rare variety of familial polyposis (polyps are more scattered, may affect small intestine, appears at later age) associated with osteomata e.g mandible and skull, multiple sebaceous cysts, desmoid tumour, post operative mesenteric fibromatosis

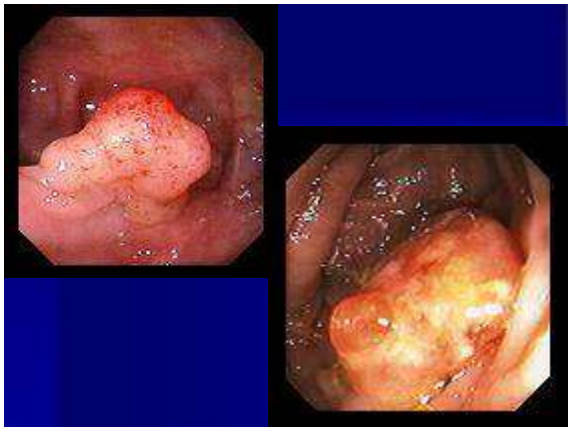
6-False polyp: hyperplasic epithelium often associated with colon bilharziasis, ulcerative colitis, chronic dysentery, TB.

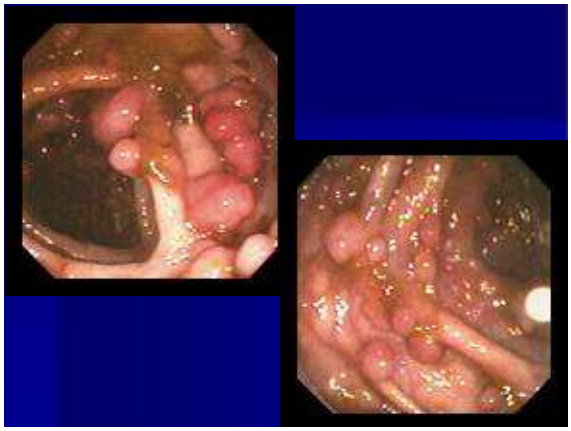
II- Connective tissue tumours: e.g lipoma, fibroma, leiomyoma, and haemangioma.

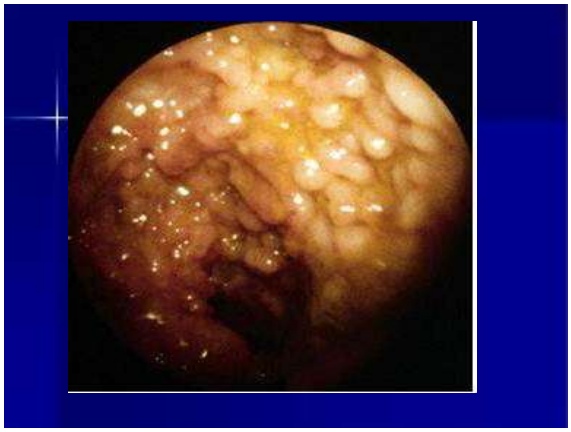


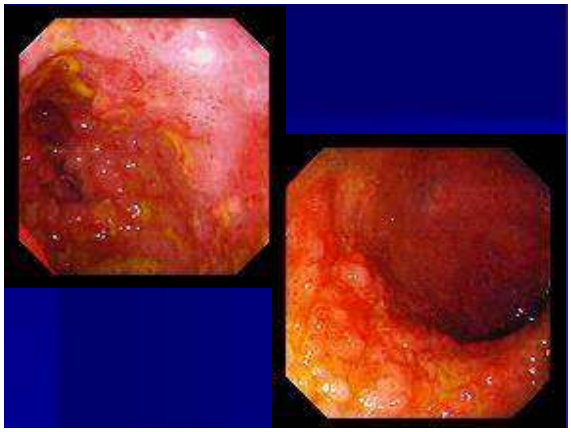


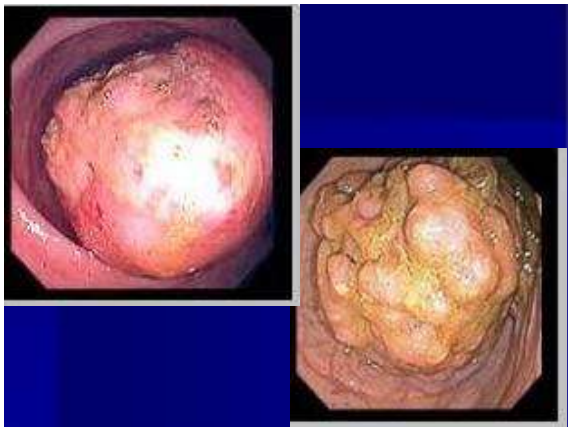












Malignant tumours of the colon

A common disease that affect patients over age of 30 y. more in males, high incidence in western (high fat intake that→↑carcino-genic polycyclic hydrocarbons,↓benzpyrine hydroxylase activity Precancerous lesions e.g familial polyposis, Gardner's synd., ulcerative colitis, villous adenomas, and adenomatous polyps

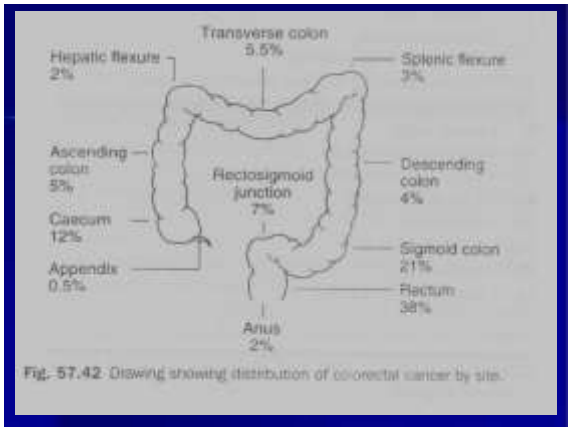
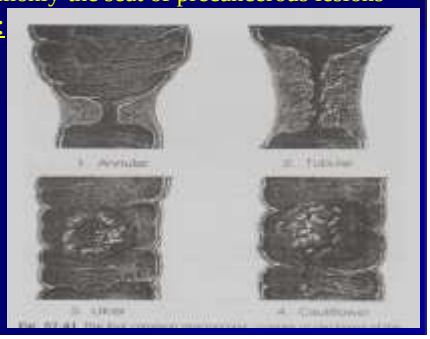


Fig. 57.42 Drawing showing distribution of colorectal cancer by site.

The pelvic colon is the commonest site (? 50%) may be because its content is solid, stagnant, and irritant, and it is commonly the seat of precancerous lesions

Gross path.:



Microscopic appearance: *-Adenocacinoma
*- Spheroidal-cell carcinoma *- Colloid carcinoma

Spread:

(1) Intramural extension either circumferentially, or longitudinally about 4 cm distal, and 7 cm proximal
(2) Direct spread to the neighboring structures
(3) Lymphatic spread (+ ve LN in about 45% of cases) ➔ epicolic LN ➔ paracolic LN ➔ intermediate colic LN ➔ central or main colic LN ➔ para aortic LN
(4) Blood spread via portal vein to the liver, rarely lungs and bones are involved.
(5) Trans peritoneal spread: malgnant ascites, peritoneal seedling, omental secondaries, ovaries (Krukenberg's tumour, pelvic floor (Blumer's shelf).
(6) Local implantation: ? Anastomotic recurence post op.

Complications: *- Haemorrhage *- Perforation *- Intussusception *- Fistula *- Acute obstruction

C/P: depends on the site of lesion

The right colon ➔pallor, easy fatiguability, weakness, vague Rt abd. Pain, discomfort, palpable mass

The left colon ➔obstructing symptoms in the form of increasing difficulty of bowel , increasing doses of purgatives, infrequent colic, tenesmus with passage of mucous and blood in stool (spurious diarrhea), sometimes acute on top of chronic obstruction.

Diagnosis: Any chronic change in the bowel habit of an adult should be investigated as colon cancer till proved otherwise

Clinical examination: mass, intestinal obstruction

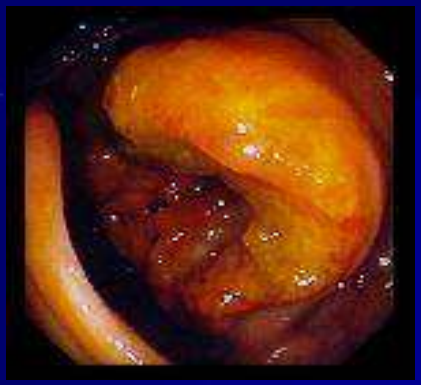
Barium enema: Irregular stricture or irregular filling defect

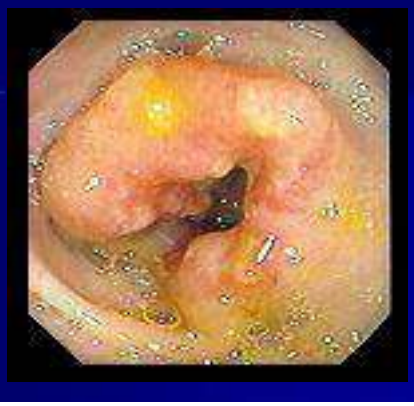
Endoscopy and biopsy

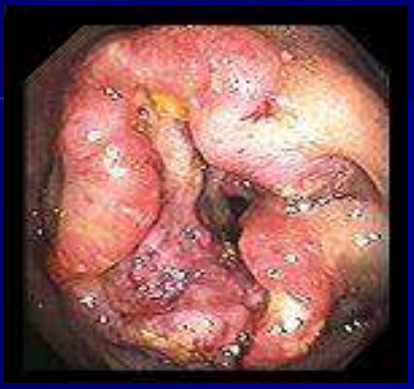
Tumour marker: CEA (↑ 2.5 ng/ml), if the concentration is greater than 10 ng/ml, it is strongly suggestive of metastases,very helpful in recurrence

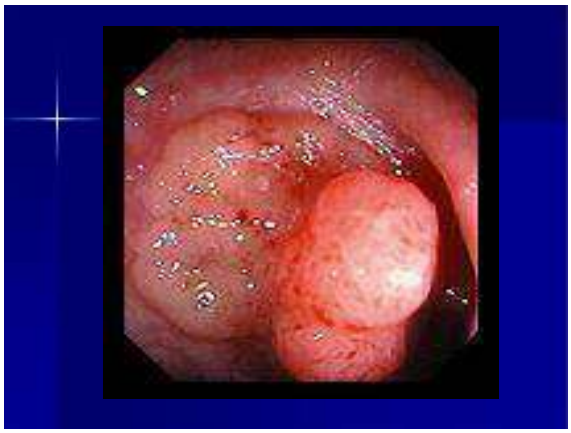
Treatment:

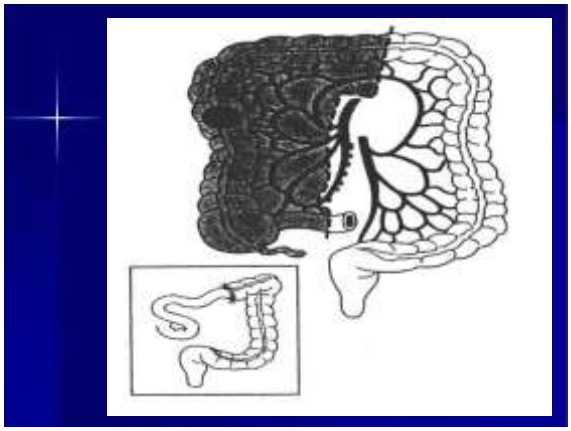
Operable cases➔ removal of the tumor with safety margin proximally and distally with block dissection of draining LN with re-anastomosis (The highly infective content - constant gaseous distention incomplete serosal coverage - weak muscle coat – and Peculiar blood supply (colic vessels are end arteries)

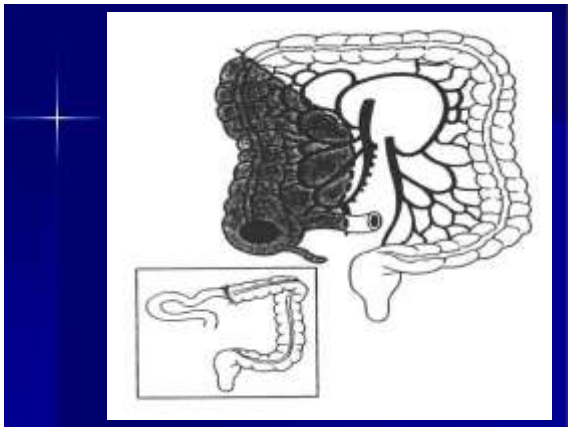


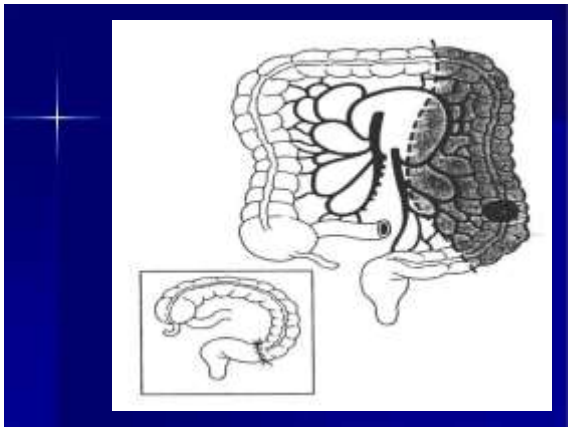


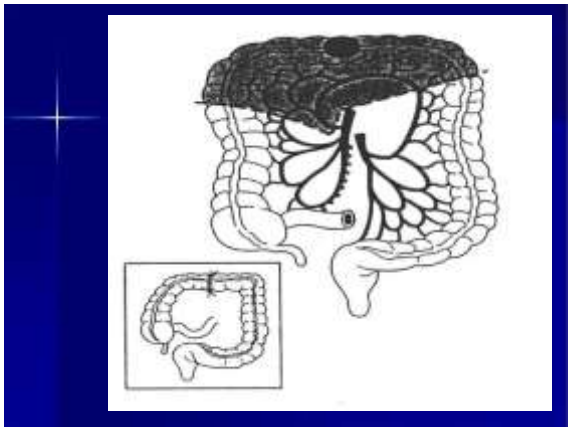


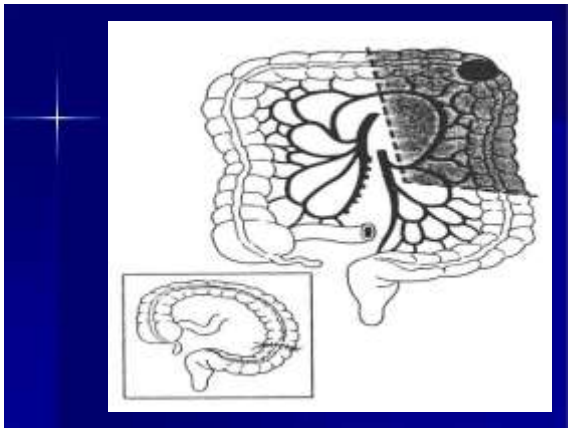


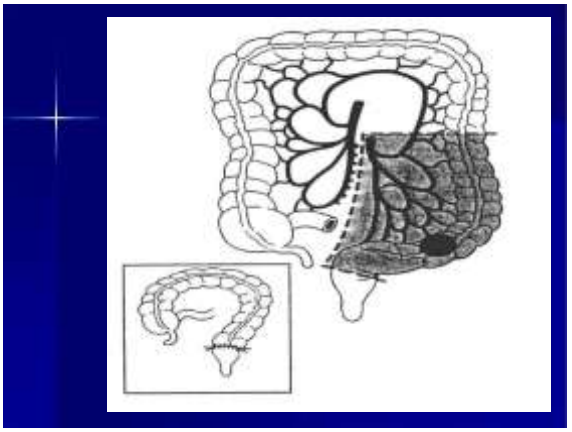












Methods of resection:

*Exteriorization resection (Paul-Mikulicz's operation)
*Resection of the defunctioned distal colon (Devine's)
*Primary colectomy with anastomosis is the operation of choice for all cases with special attention to:
*-adequate op. techniques *- Non touch techniques
*- wider lymphatic resec. *- early vascular ligation

Inoperable cases

Palliative resection Lateral anastomosis
Colostomy
Other measures