




Small bowel tumours

← أي شيء مكتوب عنده **هم** لكون الدكتور أكد عليه آخر المحاضرة
إنه هاد أهم شيء لازم نعرفه



- ▶ Only 1 to 2 per cent of malignant alimentary **tumours**.
- ▶ ✓ Equal between man and women
- ▶ 100 times less frequent than in the stomach, oesophagus, or colorectum
- ▶  Benign lesions are more common distal, while Adenocarcinoma is more common proximal.

We mean duodenum ↵



- ▶ Small intestinal tumors may originate in cells of the:
 - ▶ epithelium
 - ▶ adenomas,
 - ▶ adenocarcinomas or
 - ▶ carcinoids
 - ▶ lymphatic tissues
 - ▶ lymphomas
 - ▶ mesenchymal or neural elements
 - ▶ gastrointestinal stromal tumors
 - ▶ leiomyomas
 - ▶ lipomas
 - ▶ hemangiomas
 - ▶ neuromas
 - ▶ sarcomas

Risk factors



- ① ▶ Familial adenomatous polyposis, → *less common than colon CA*
- ② ▶ Hereditary nonpolyposis colorectal cancer (HNPCC),
- ③ ▶ Peutz-Jeghers syndrome,
- ④ ▶ Crohn's disease,
- ⑤ ▶ Gluten-sensitive enteropathy (celiac sprue),
- ⑥ ▶ Biliary diversion (e.g., previous cholecystectomy).

Presentation



- ▶ Sixth and seventh decades of life
- ▶ Benign **tumours** are found incidentally at laparotomy or autopsy
 - ▶ vague symptoms, absence of clinical signs, the difficulty in investigating much of the **small bowel**
 - ▶ ✓ nausea, dyspepsia, epigastric discomfort, fatigue, bloating and weight loss, to haemorrhage or obstruction
 - ▶ ✓ Haemorrhage: occult or major bleeding ..
 - ▶ ✓ palpable abdominal mass, perforation, fistula formation, intussusception or intraperitoneal haemorrhage

all
non-
specific

CLINICAL PRESENTATION OF PRIMARY SMALL BOWEL TUMORS



Signs and symptoms Frequency (%)

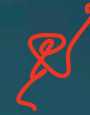
BENIGN NEOPLASMS

Asymptomatic	47–60
Abdominal pain	24–50
Acute gastrointestinal hemorrhage	29–44
Anemia	28–58
Intermittent obstruction	12–28

MALIGNANT NEOPLASMS

* Asymptomatic	6–12
* Abdominal pain	62–83
* Weight loss	38–55
Nausea/vomiting	23–64
Acute gastrointestinal hemorrhage	6–31
Anemia	12–38
Abdominal mass	5–32

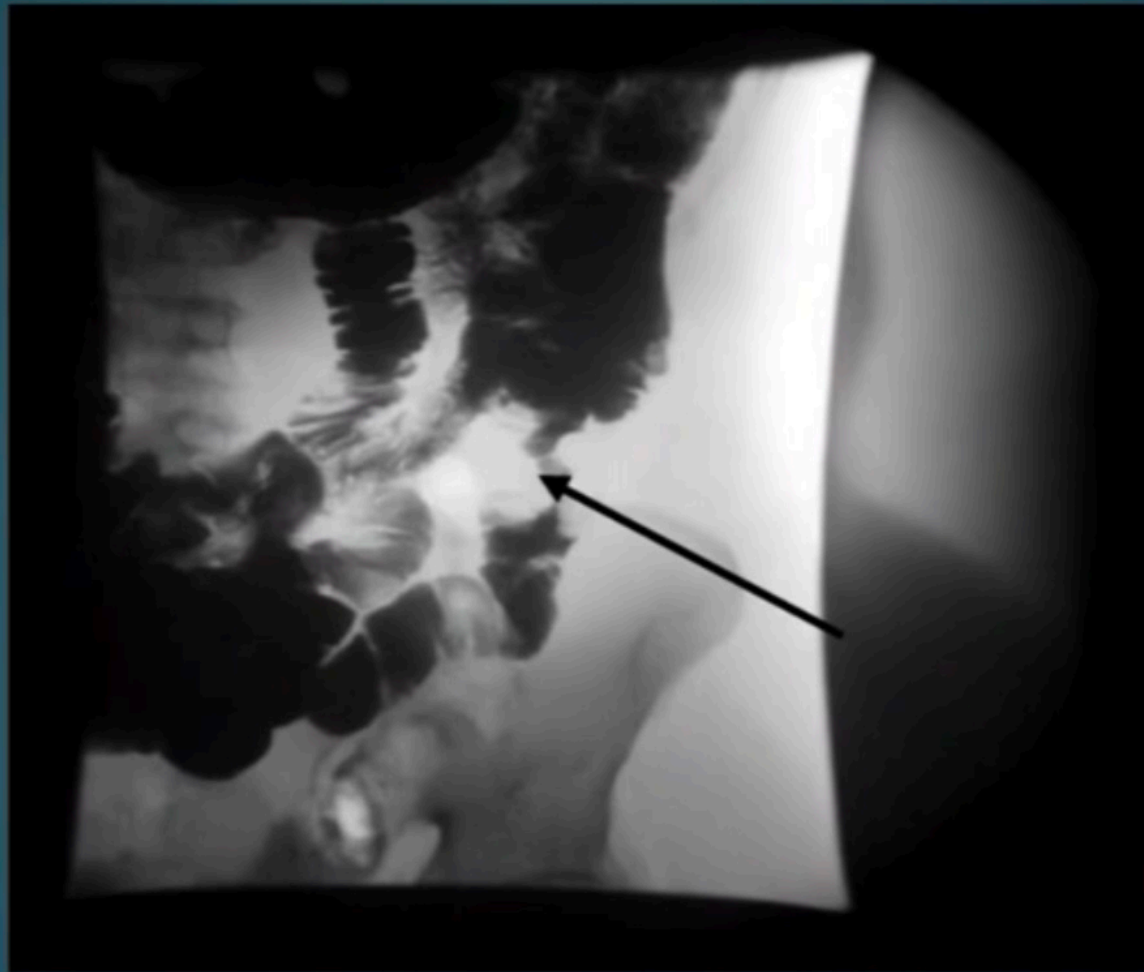
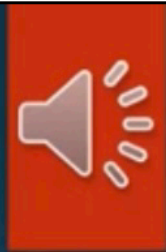
Investigation



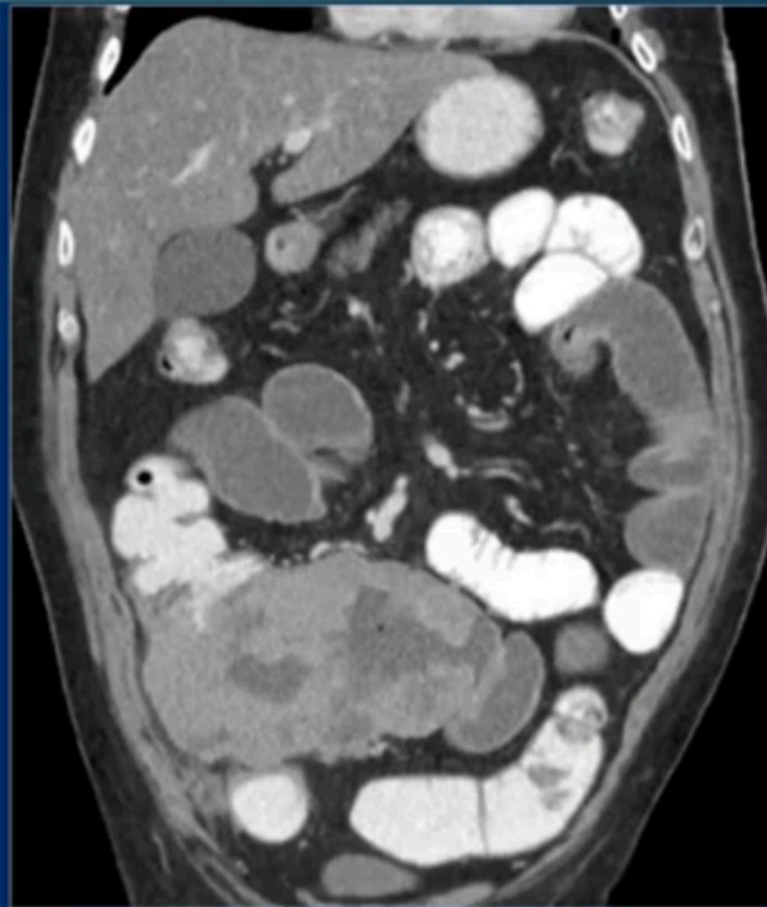
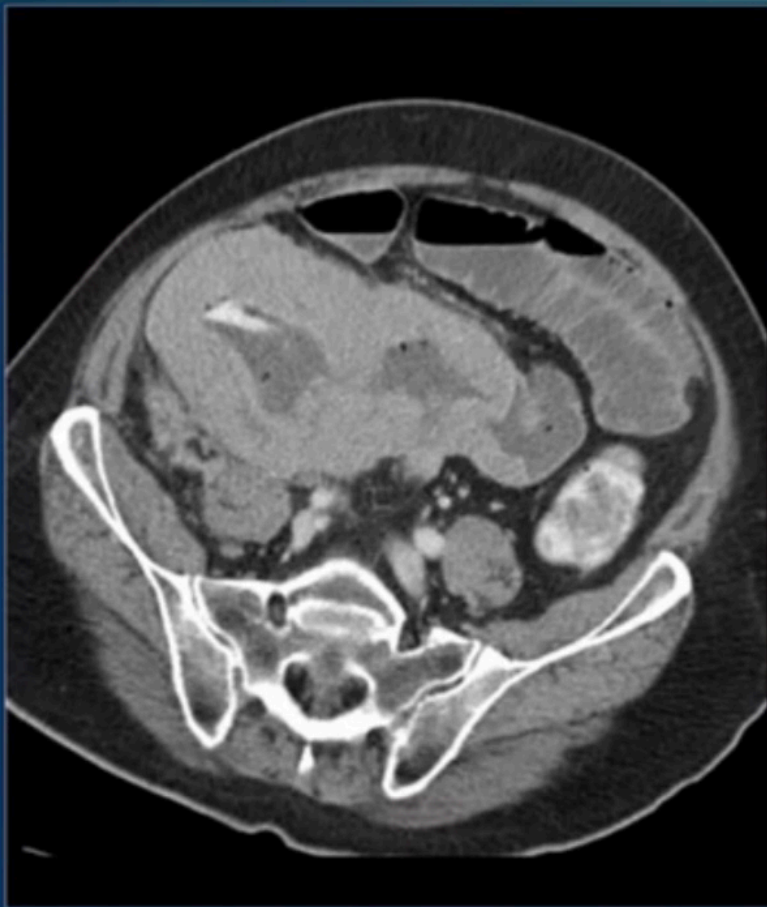
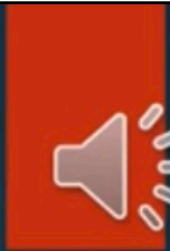
- ①
- ▶ Contrast Studies : small bowel follow through
- ▶ ② Endoscopy
- ▶ ③ CT / MRI
- ▶ ④ Angiography → through the vessels
- ▶ ⑤ Capsule endoscopy
↳ small capsule with a camera



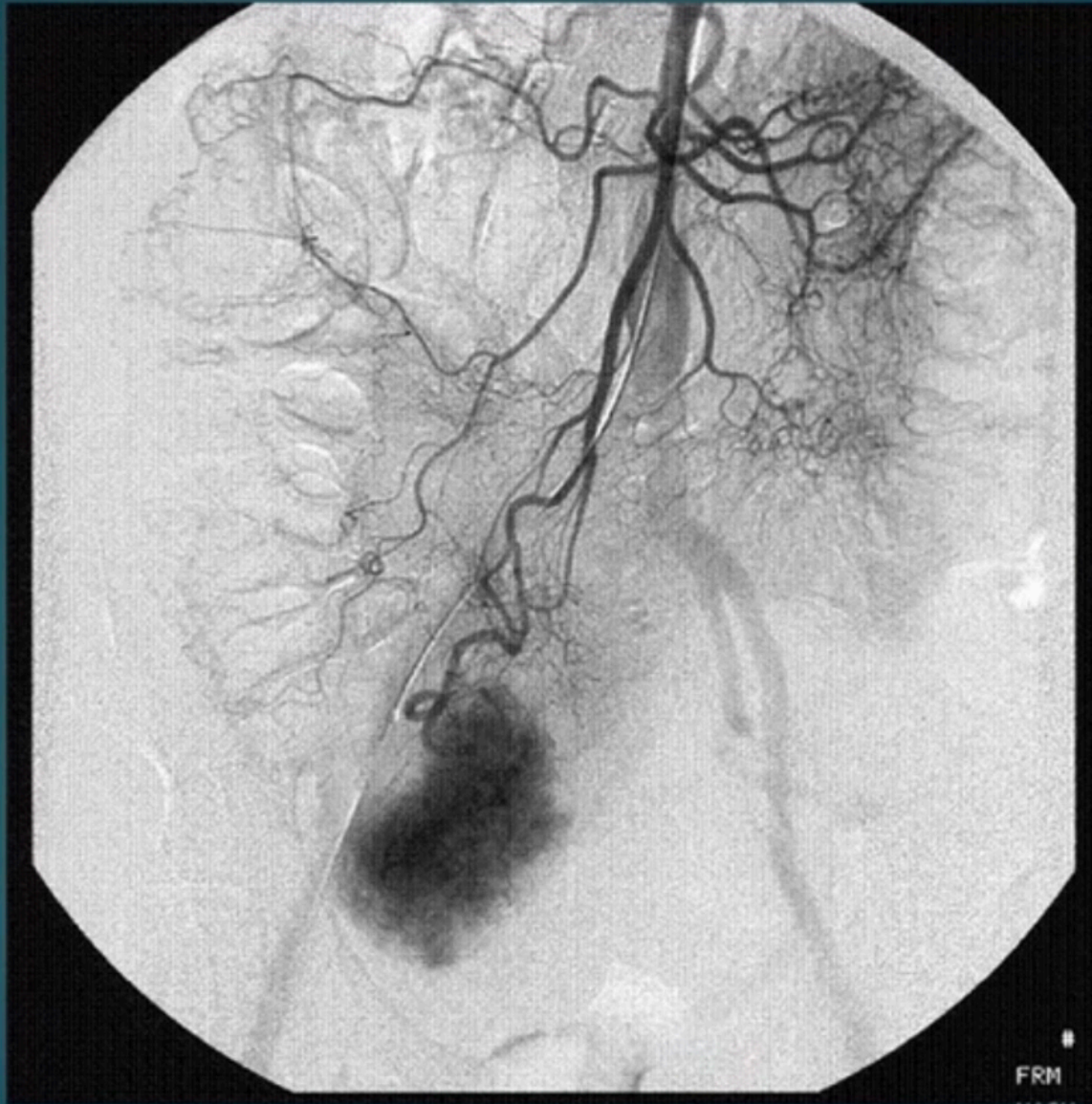
small bowel follow through



CT enterography



thickening
of the wall
of the small
bowel

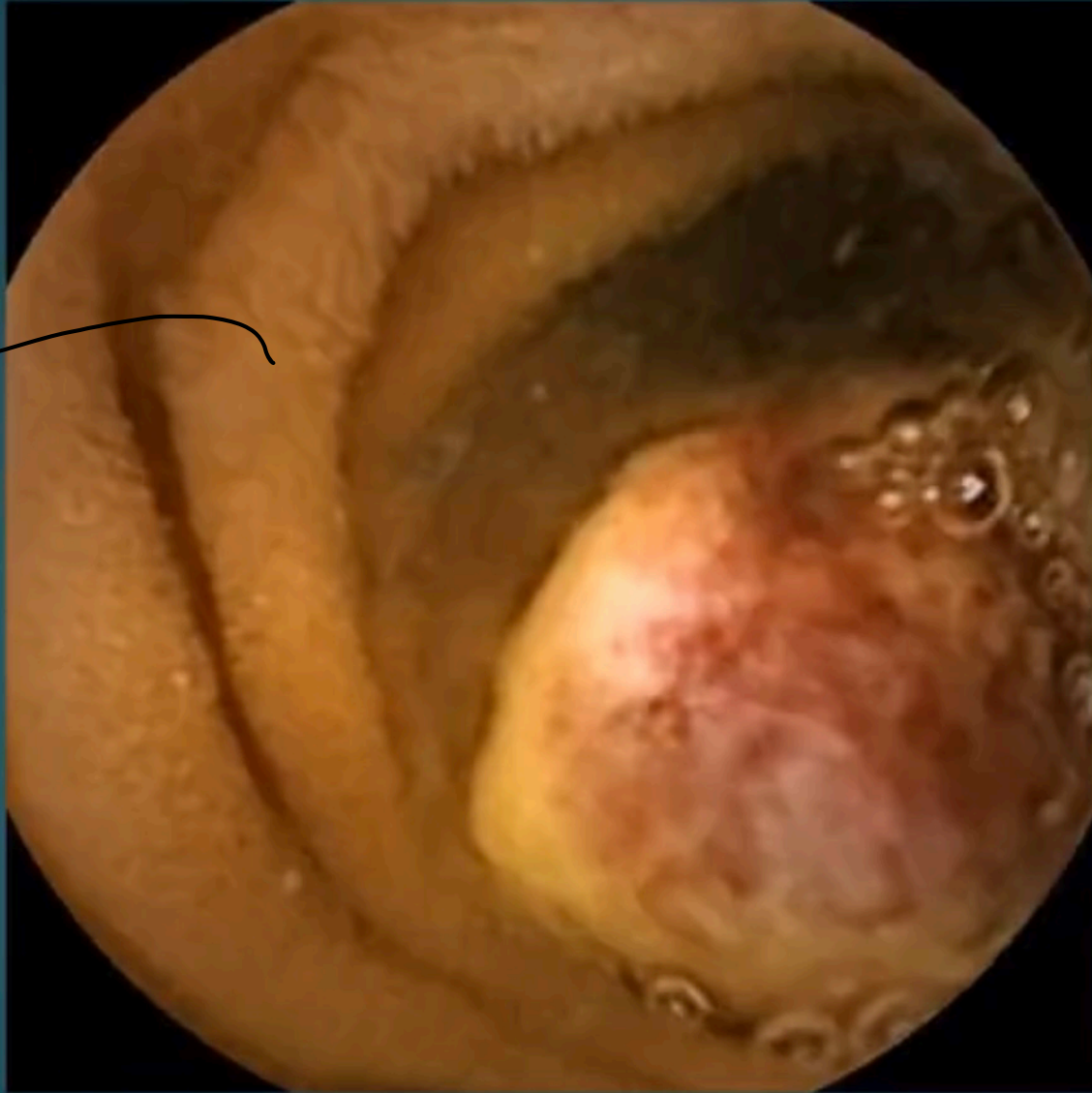


tumor in the
right iliac
fossa

Angiogram



villi



Capsule endoscopy

Pathological classification



- ▶ Not straightforward (*not very clear*)
 - ▶ ***Benign neoplasms***
 - ▶ ***Malignant Tumours***



Adenoma → benign and originating from the epithelium

- ▶ True adenoma, Villous adenoma and Brunner gland adenoma.
- ▶ 20% in duodenum, 30 % in jejunum and 50% in **ileum**.
- ▶ Villous adenomas more common in Duodenum and less common in distal small bowel.
- ▶ Most common presentation is asymptomatic, Abdominal pain, obstruction, and occult (or overt) haemorrhage Obstructive jaundice.
- ▶ Malignant change increases with the **size, site**, and **number** of lesions as well as with the histological type (**tumours** situated in the **periampullary** region are more prone to malignancy)



↑ around the ampulla → ↑ risk of malignancy



lesion in the 2nd part of
the chordendum

Familial Polyposis syndromes



- ▶ Familial polyposis coli
- ▶ Autosomal-dominant inheritance of the mutated APC gene
- ▶ Thousands of adenomas in the colorectum
- ▶ polyps occur within the **small** intestine in 24 to 93 per cent
- ▶ only 2 to 12 per cent develop duodenal cancer
- ▶ Treatment : excise polyps / biopsy / follow up

* you can't excise the small bowel for all patients → short bowel syndrome

Other Benign neoplasms



- ▶ **Brunner's gland adenoma (duodenum)**
- ▶ **Lipoma**
- ▶ Neurofibromas
- ▶ **Fibroma**
- ▶ **Vascular tumours**
- ▶ **Leiomyoma**



Malignant Tumours of Small Intestine *(more likely to produce symptoms)*

- ▶ Malignant neoplasms almost always produce symptoms
- ▶ The most common: pain and weight loss
 - ▶ Obstruction in 15- 35% of patients (adhesions and infiltration)
 - ▶ Diarrhoea and excess mucus
 - ▶ GI bleeding , anaemia



Carcinoid tumours

- ▶ Originate in **enterochromaffin cells (argentaffin cells)**
- ▶ 0.7 per 100 000
- ▶ These **tumours** may occur in the
 - ▶ **foregut** (including the duodenum),
 - ▶ **midgut** (including the jejunum),
 - ▶ **the hind gut.**
- ▶ Midgut carcinoids characteristically secrete large amounts of 5-hydroxytryptamine (**5-HT; serotonin**), whereas foregut carcinoids secrete **small** amounts of this peptide



Carcinoid tumours cont.

- ▶ Most common in ileum (last two feet)
- ▶ Multi-centric in 30 – 40 % of cases
- ▶ yellow in colour and appear in a submucosal or serosal position
- ▶ *slow-growing **tumours**
- ▶ fifth decade, and both sexes are affected equally.
- ▶ Most common presentation is pain. (chronic pain)
- ▶ Most patients will have metastasized to LN / Liver
- ▶ Doudenal carcinoid can cause ulceration, obstruction, and jaundice



Carcinoid **tumours** malignant potential

- ▶ Metastasis is related to size of tumor,
 - ▶ Less than 1cm tumor : 20 – 30 % risk of mets to LN and liver
 - ▶ 1–2 cm tumor: 60-80% LN and 20% Liver
 - ▶ More than 2cm : 80% LN and 40-50% liver
- ▶ Lesion less than 1cm can be adequately treated with local excision.
- ▶ ^{*} Small bowel obstruction, ^{*} mesenteric fibrosis and ^{*} ischaemia.
↳ patient presents with pain

Carcinoid syndrome.



- ▶ Carcinoid syndrome refers to **vasomotor**, **gastrointestinal**, and **cardiac** manifestations induced by systemic circulation of a variety of peptides elaborated by carcinoid tumor
 - ▶ *Diarrhoea, flushing, wheezes, abdominal cramps, cardiac (Rt heart failure)*
 - ▶ *Most likely liver metastases or large tumor bypass the liver*
- ▶ **Elevated** urinary levels of **5-HIAA** measured over 24 hours with high-performance liquid chromatography are highly specific but not sensitive

Carcinoid Tumours Cont.



- ▶ Treatment
- ▶ Local disease : resection including draining Lymph nodes
- ▶ Metastatic disease:
 - ▶ Tumour debulking, resection, cryotherapy, radiofrequency ablation, hepatic artery embolization, or chemoembolization.
- ▶ Systemic therapy
 - ▶ Somatostatin analogs. Octreotide, Long-acting octreotide, lanreotide. *palliative*
- ▶ **Cytotoxic chemotherapy: ineffective.**

Adenocarcinoma



- ▶ Adenocarcinoma accounts for about 35% of **small bowel tumors**
- ▶ **More common in proximal small bowel than distal.** *and minimally in the jejunum*
- ▶ median age at presentation of **60 years**
- ▶ Presentation according to site:
 - ▶ Non-specific, vomiting, pain, jaundice, obstruction, perforation. *→ late presentation because of non-specific symptoms*
- ▶ Jejunal and ileal **tumours** are best treated by segmental resection including the regional lymph nodes
- ▶ The overall 5-year survival rate for jejunoileal carcinomas is **20 to 30** per cent. If **there is no nodal involvement at operation, survival is increased to 50 to 70** per cent
- ▶ Chemotherapy is of little help.

Adenocarcinoma cont.



- ▶ Adenocarcinoma developing with ~~crohn's~~ ^{CD} **crohn's disease** is more common in ileum
- ▶ 20 years younger
- ▶ male preponderance of about 70 per cent
- ▶ prognosis is very poor

Gastrointestinal lymphoma



- ▶ 1 to 4 per cent of all primary gastrointestinal cancers
- ▶ 50 to 55 per cent of **tumours** occur in the stomach, 30 to 32 per cent in the **small bowel**
- ▶ ~~✖~~ Present with; obstruction, bleeding , anorexia and weight loss .
- ▶ 5th and 6th decade
- ▶ Most common in **ileum**
- ▶ Increase incidence in patients with **Coeliac disease / immunodeficiency states** (e.g., AIDS).
 - ▶ Worsening diarrhea, pyrexia, and local obstructive symptoms.
- ▶ Treatment is usually medical unless surgical complication.

Gastrointestinal Stromal Tumours (GIST)



- ▶ Arise from Connective tissue cells
- ▶ Most common mesenchymal tumour of the GI Tract.
- ▶ Benign or malignant. Size increase risk of malignant potential.
- ▶ Usually stomach followed by small bowel (jejunum > ileum)
- ▶ 50-70 years of age.

GIST cont.



- ▶ ^{*}Lymphatic spread is not common *(just resect the tumor)*
- ▶ Metastasis to liver or peritoneum

- ▶ Prognosis
 - ▶ Worse than in stomach and oesophagus
 - ▶ Tumour size : less than 2 cm diameter → low risk
 - ▶ Mitotic rate: less than 5 HPF → low risk



▶ Treatment

▶ Surgery . Excision with negative margin

*** Tyronise kinase inhibitor (imatinib) in **advanced cases** 50% tumours shrinkage.

▶ Radio-resistant



End of notes