

# STOMACH AND DUODENUM



**Qais K.Baqer**

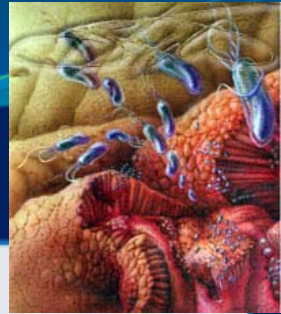
**FCABS FICMS FICS**

**Consultant Gastrointestinal & Hepatobiliary Surgeon**

# Gastric Cancer

- Major cause of cancer mortality.
- Early Dx. is the key for cure in 5-10%.
- Incidence:
  - USA 10/ 100 000.
  - UK 15/ 100 000.
  - EUR 40/ 100 000.
  - Japan 70/ 100 000.
    - ✓ **Environmental exposure.**
    - ✓ **Dietary carcinogens.**
- Decrease incidence of distal cancer.(  
H. pylori).
- Increase incidence of proximal cancer.

# Aetiology



## H. Pylori infection

- Distal > Proximal
- Lead to inflammation (chronic atrophic gastritis) metaplasia and pre-cancerous changes.

## Gender

- Stomach cancer is more common in men than in women.

## Aging

- There is a sharp increase in stomach cancer after the age of 50.

# Aetiology

**Pernicious anemia**

- Gastric atrophy

**Previous stomach surgery**

- Duodeno-gastric reflux of bile into the stomach.... Metaplasia.
- The risk continues to 15 to 20 years after surgery.

**Menetrier's disease**

- Premalignant

# Aetiology

## Tobacco use

- Smoking increases cancer risk, particularly proximal
- The rate of stomach cancer is about doubled in smokers.

## Obesity

- Over weight or obese
- High socioeconomic class.
- Proximal cancer.

# Aetiology



## Ethnicity

- It is most common in Asian/Pacific Islanders.



## Diet

- Diets containing smoked foods, salted fish and meat.
- Nitroso compounds.
- Fresh fruits and vegetables contains antioxidant vitamins (such as A and C) lower the risk of stomach cancer.



# Aetiology

## Inherited cancer syndromes

- E-cadherin mutation
- B- catenin.
- *APC gene*.
- Inactivation of P52( Tumour suppressor gene).
- HNPCC, also known as Lynch syndrome).

# Aetiology

**Gastric polyps**

- **Adenomatous polyps**

**Blood group A**

- **Unclear reason**



# Clinical features

- Features in advanced cancer are clear.
- Curable cancer has no specific features.
- Similar to benign dyspeptic symptoms.
- In Japan:
  - Screening program.
  - Liberal use of OGD.
- Index of suspicion.
- Anti ulcer drugs?

# Clinical features

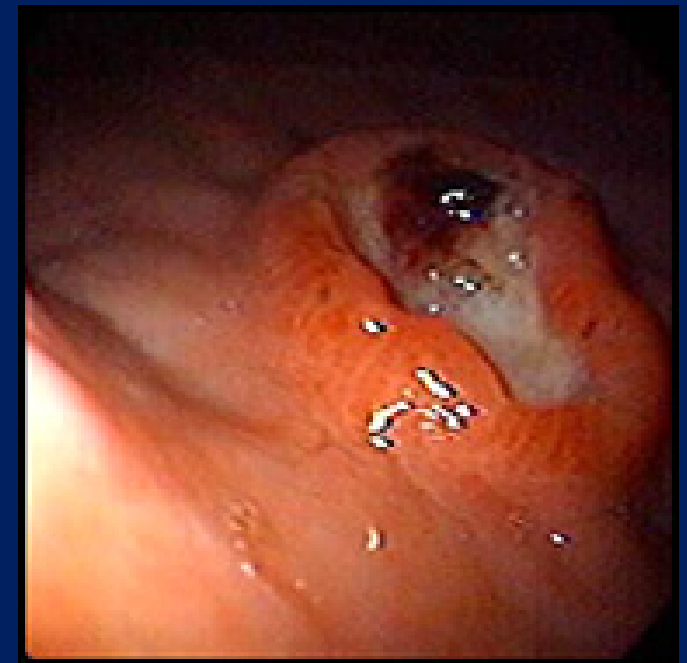
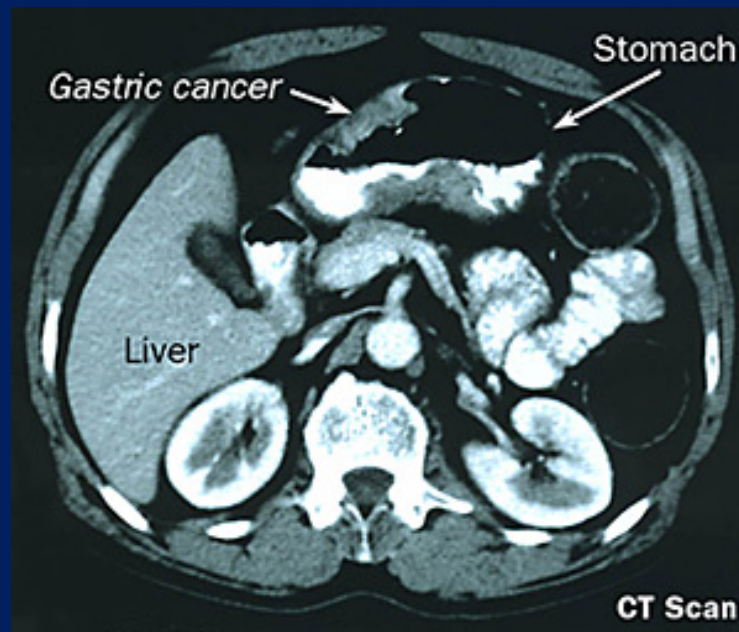
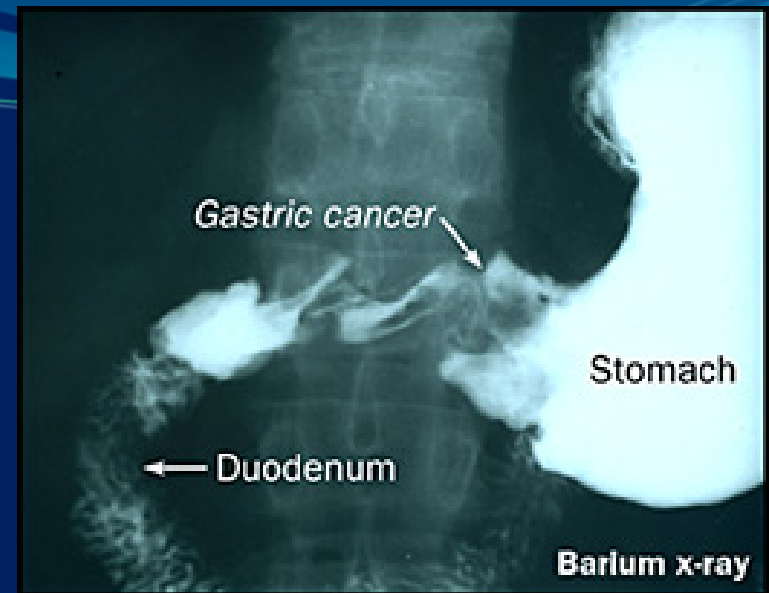
- Insidious upper abdominal discomfort (vague, postprandial fullness, bloating to severe steady pain) - extensive tumors.
- 3 As: **A**nemia      **A**norexia      **A**sthenia
- dysphagia & early satiety .in cardia
- GOO Pyloric tumours
- GIT bleeding, Iron def. anemia.

# Clinical features

- No early physical signs.
- advanced cancer:
- Palpable abdominal mass.
- ◎ Metastases:
  - Malignant ascites
    - intraabdominal LNs.
    - Lt supraclavicular LN. Virchow's LN, Troisier's sign.
    - Ovary (Krukenberg's tumor)
    - Periumbilical region ("Sister Mary Joseph node")
    - Peritoneal cul-de-sac (Blumer's shelf): palpable on rectal or vaginal examination.
  - non- metastatic effect of malignancy:
    - thrombophlebitis ( Trousseau's sign).
    - DVT.
    - Acanthosis nigrans

# Investigations.

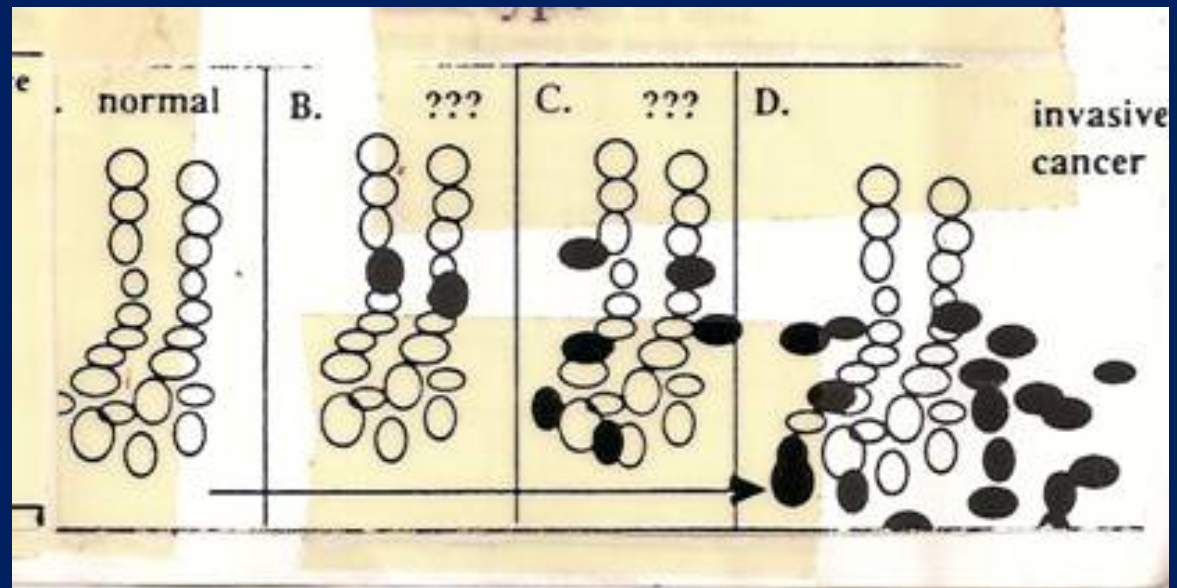
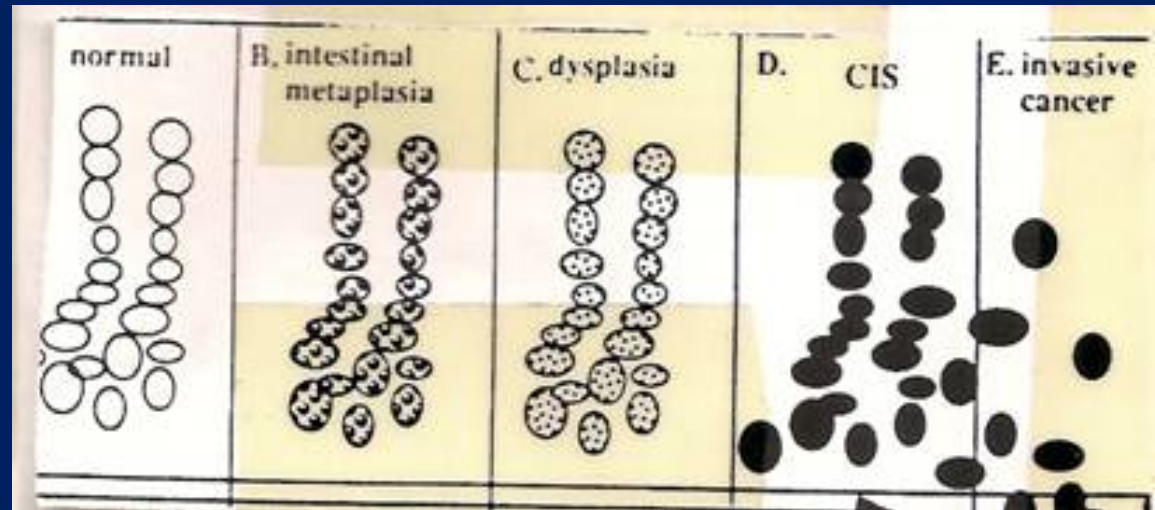
- Double contrast radiographic examination.
- Gastroscopey & Bx.
- Enhanced CTS, MRI.



# Pathology

## • Layan classification:

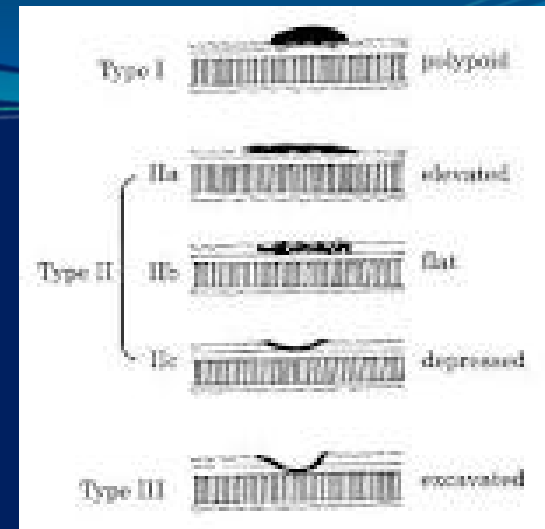
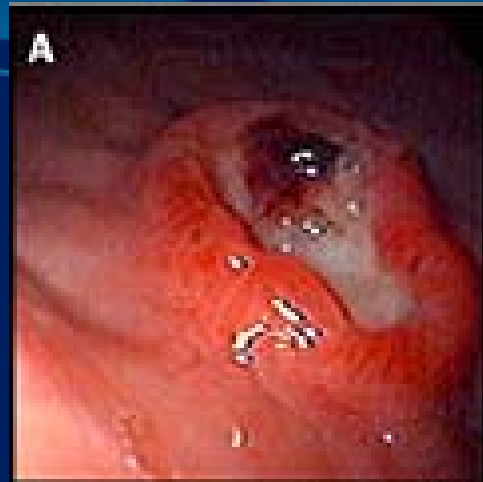
- Intestinal type.
- Diffuse type.
- Mixed type.



# Pathology

- Early cancer:

- Type I: Polypoidal.
- Type IIa: Elevated.
- Type IIb: Flat.
- Type IIc: Depressed.
- Type III: Excavated.



- Advanced cancer:

1. Superficial spreading
2. Polypoid (well differentiated)
3. Fungating
4. Ulceration
5. Scirrhou (linitis plastica).





# Staging.

## T: Primary tumor

Tis	Carcinoma in situ; Intraepithelial tumor without of lamina propria
T1	Tumor invades lamina propria or submucosa
T2	Tumor invades muscularis propria or subserosa
T3	Tumor penetrates serosa (visceral peritoneum) without invasion of adjacent structures
T4	Tumor invades adjacent structures

## N: Regional lymph node

N0	No regional lymph node metastasis
N1	Metastasis in 1 to 6 regional lymph nodes
N2	Metastasis in 7 to 15 lymph nodes
N3	Metastasis in more than 15 regional lymph nodes

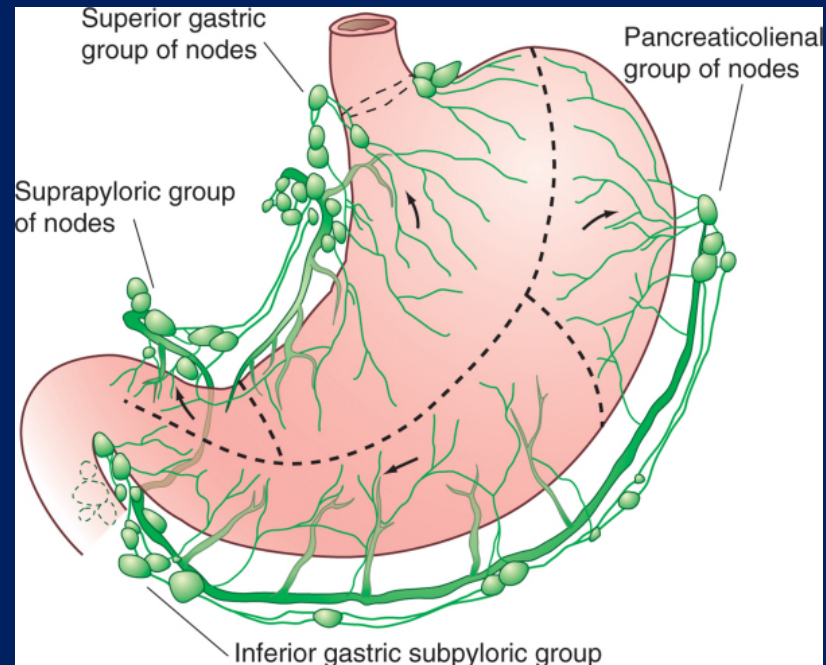
## M: Distant metastasis

M0	No distant metastasis
M1	Distant metastasis

Stage	T	N	M
0	Tis	N0	M0
IA	T1	N0	M0
IB	T1	N1	M0
	T2	N0	M0
II	T1	N2	M0
	T2	N1	M0
	T3	N0	M0
IIIA	T2	N2	M0
	T3	N1	M0
	T4	N0	M0
IIIB	T3	N2	M0
IV	T4	N1-3	M0
	T1-3	N3	M0
	Any T	Any N	M1

# Spread

- **Direct:**
- **Lymphatic :**
  - Permiation.
  - Emboli.
- **Blood- born:**
  - liver.
  - lung& bone.
- **Transperitoneal spread:**
  - ascitis.
  - peritonium.
  - Blumer's shelf's.
  - overies.
  - Umbilicus.



# Treatment

- The only treatment option is resectional surgery.

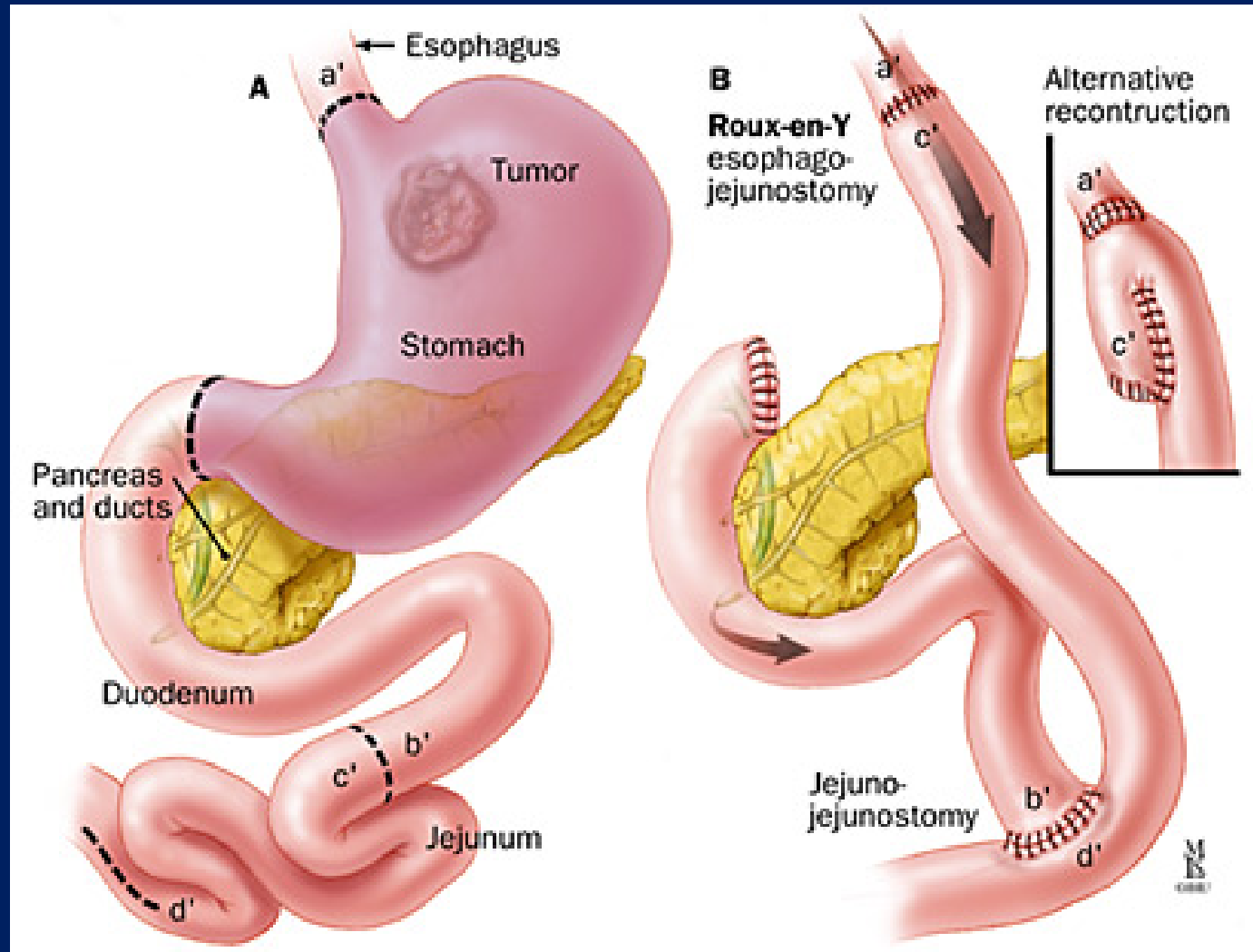
- Curable.
- Palliative.

- Operability.
- Resectability.

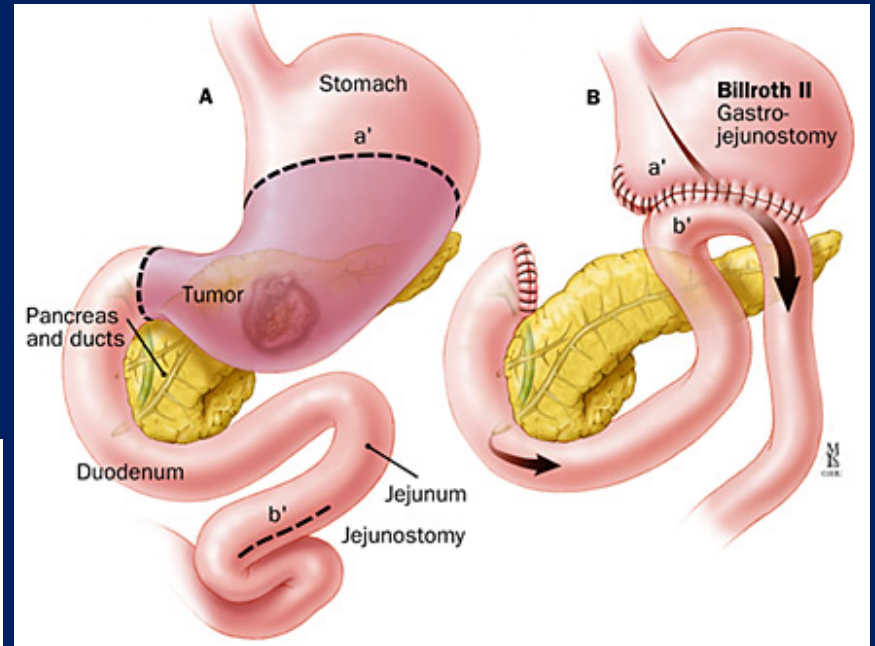
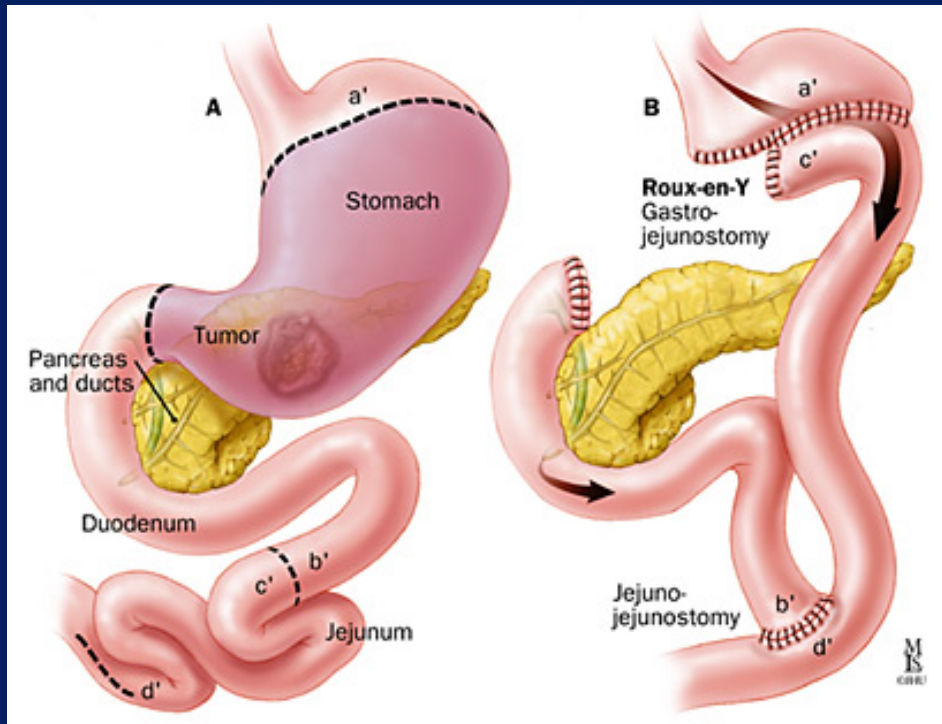
- CLINICAL EXAM
- CT SCANS
- MRI
- PET SCANS
- CT-PET SCANS
- EUS
- OTHER IMAGING STUDIES



# Total gastrectomy



# Subtotal gastrectomy





# Palliative surgery

- Obstruction.
- Bleeding.
- resection.
- Stenting.
- Bypass surgery.

