Gastric Tumors

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Benign Tumors

- Neoplastic
  - Epithelial adenomas
  - Fundic gland polyps
  - GISTs
  - Lipomas
  - Leiomyomas
  - Neural tumours (e.g. Schwannomas)

Benign Tumors

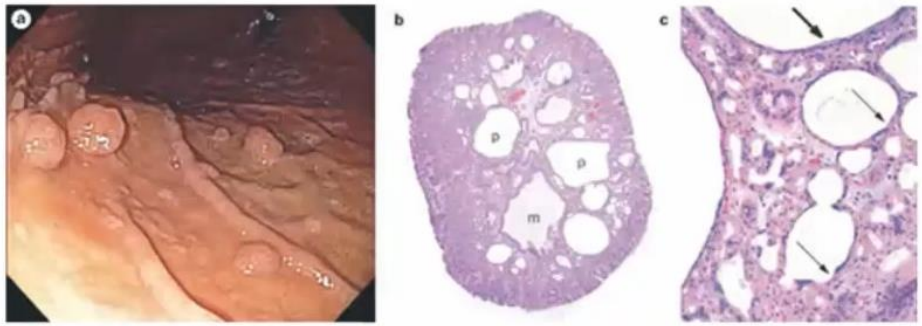
- Non-Neoplastic
  - Hyperplastic polyps
  - Inflammatory fibroid polyps
  - Hamartomatous polyps

Malignant Tumors

- Adenocarcinoma
- Primary gastric lymphoma
- GISTs
- Metastatic deposits
- Carcinoids
- Rare tumours

Mucosal polyps

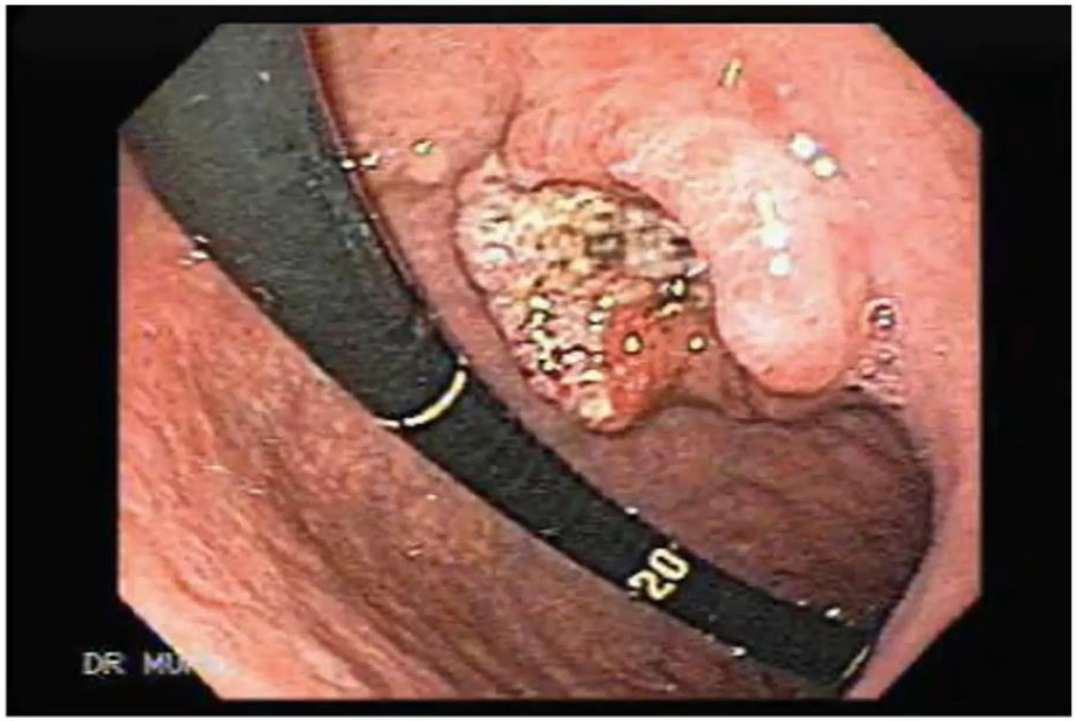
- Epithelial polyps are rare
- Types:
  - hyperplastic polyps; (80% to 85%
  - Fundic gland polyps (~10%)
  - Adenomatous polyps (~5%)



- They Increase the risk of developing gastric cancer

Gastric Adenocarcinoma (Gastric Cancer)

- Present with anorexia, nausea, abdominal pain, early satiety, and/or dysphagia
- %50 present beyond locoregional confines
- Most common sites of metastatic disease are the liver, the peritoneal surfaces, and lymph nodes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Gastric Cancer

- Lauren Classification
  - Diffuse
  - Intestinal

- Risk Factors
  - Helicobacter pylori
  - Diet
  - Obesity
  - Smoking
  - Long-term stomach inflammation (gastritis)
  - GERD
  - Family History and Genetics

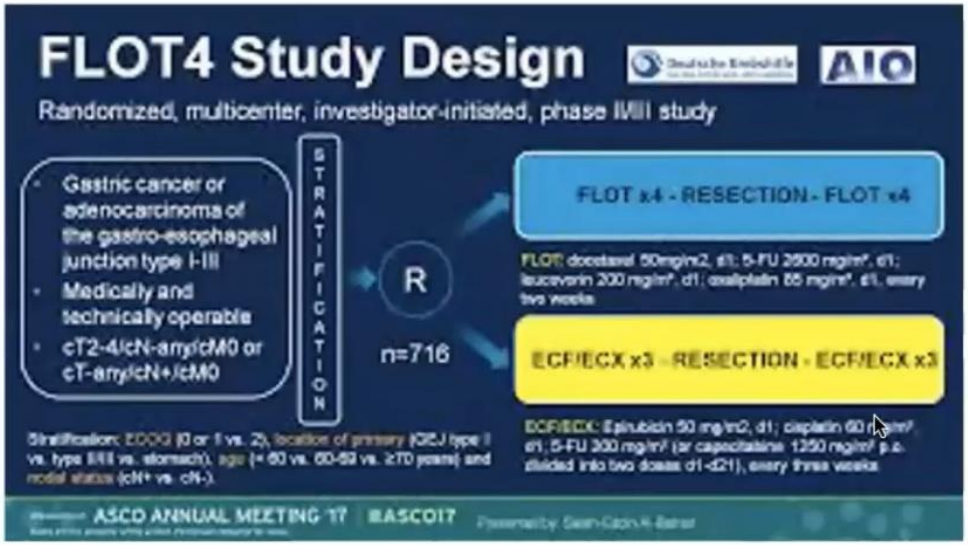
INTESTINAL	DIFFUSE
Environmental	Familial
Gastric atrophy, intestinal metaplasia	Blood type A
Men >women	Women >men
Increasing incidence with age	Younger age group
Gland formation	Poorly differentiated, signet ring cells
Hematogenous spread	Transmural/lymphatic spread
Microsatellite instability *APC* gene mutations	Decreased E-cadherin
p53, *p16* inactivation	*p53*, *p16* inactivation

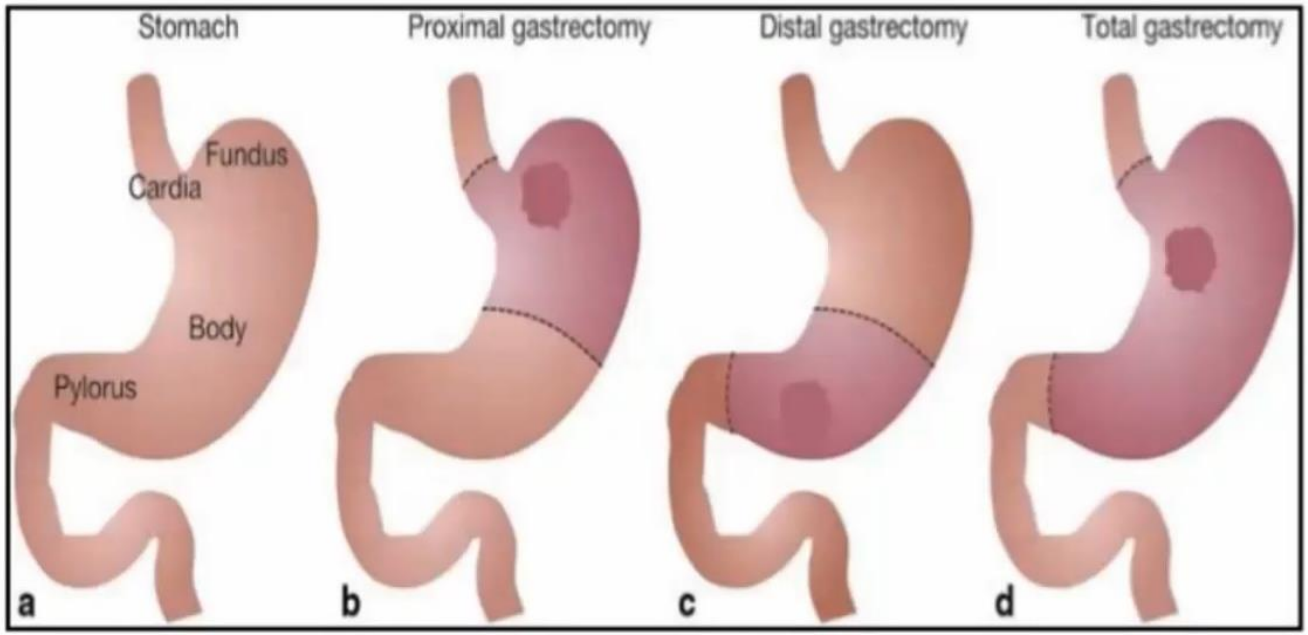
Gastric Cancer

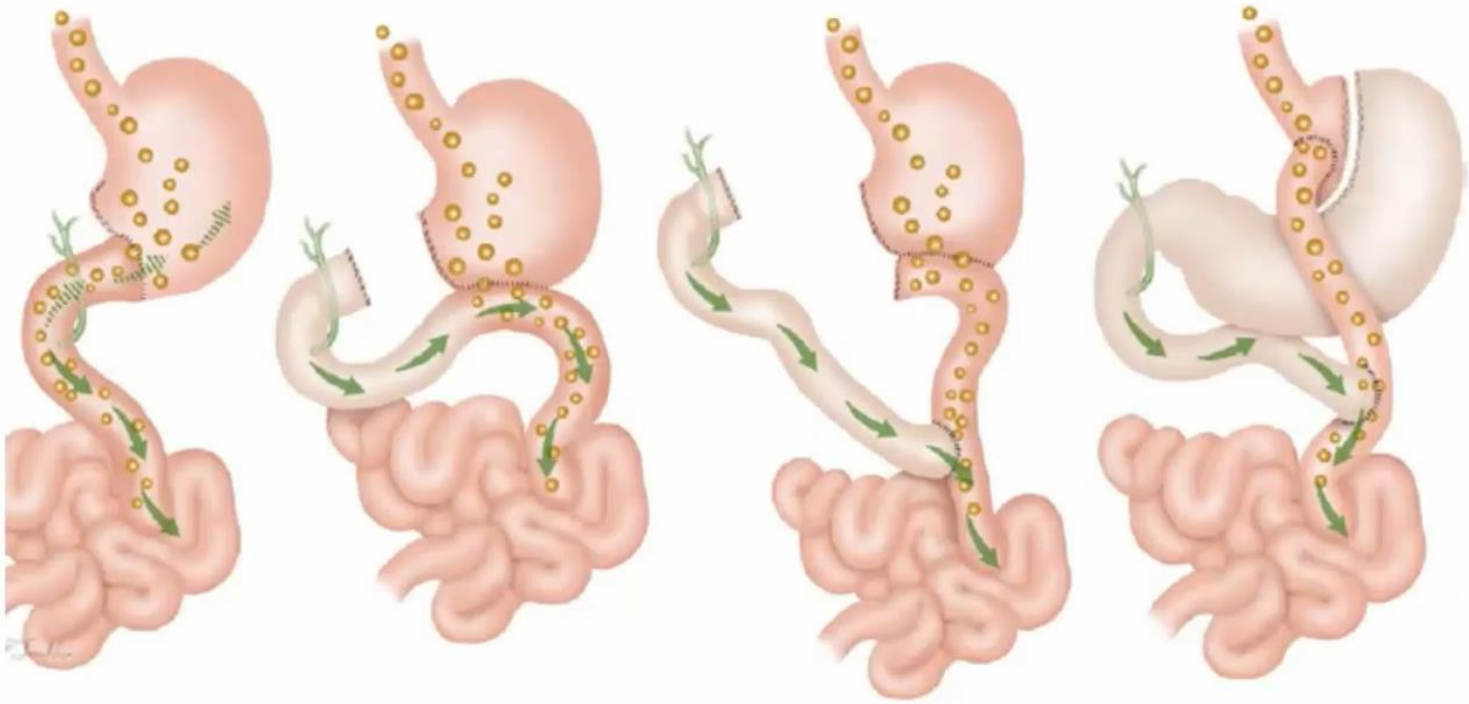
- Known hereditary conditions that cause a genetic predisposition to developing stomach cancer
  - Hereditary diffuse gastric cancer
  - Hereditary nonpolyposis colorectal cancer (also called HNPCC, or Lynch syndrome)
  - Li-Fraumeni syndrome
  - Familial adenomatous polyposis
  - Peutz-Jeghers syndrome

Gastric Cancer

- Diagnosis
  - CT Scan
  - Endoscopy
  - Biopsy
- Treatment
  - Perioperative Chemotherapy
  - Surgery




Stomach
Proximal gastrectomy
Distal gastrectomy
Total gastrectomy
Fundus
Cardia
Body
Pylorus
a
b
c
d

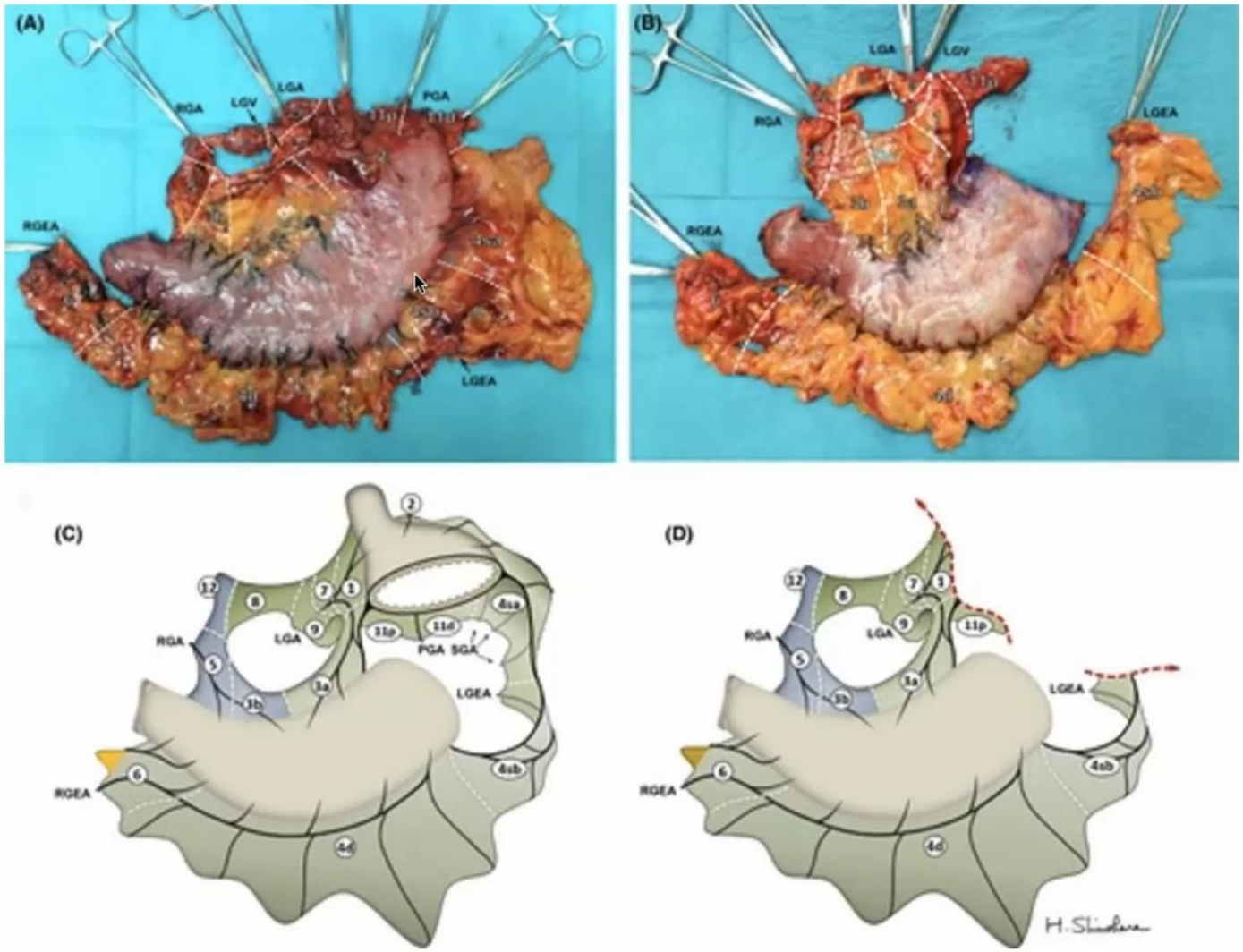


(A) Billroth I
stal Gastrectomy

(B) Billroth II
Distal Gastrectomy

(C) Roux-en-Y
Distal Gastrectomy

(D) Roux-en-Y
Gastric Bypass


(A)
RGA
LGV
LGA
PGA
RGEA
LGEA
(B)
LGA
LGV
RGA
LGEA
RGEA
(C)
RGA
LGA
PGA SGA
LGEA
RGEA
(D)
RGA
LGA
LGEA
RGEA
H. Shinbara

Gastrointestinal Stromal Tumors (GISTs)

- Stromal or mesenchymal neoplasms typically present as subepithelial neoplasms (submucosal)
- Originates from the interstitial cells of Cajal (ICCs), sometimes referred to as the gastrointestinal pacemaker cells
- Histologically can be Spindle cell type (70 percent), Epithelioid type or mixed
- GISTs are identified mainly by expression of the KIT protein and frequently harbor activating mutations in the KIT or platelet-derived growth factor receptor alpha (PDGFRA) genes

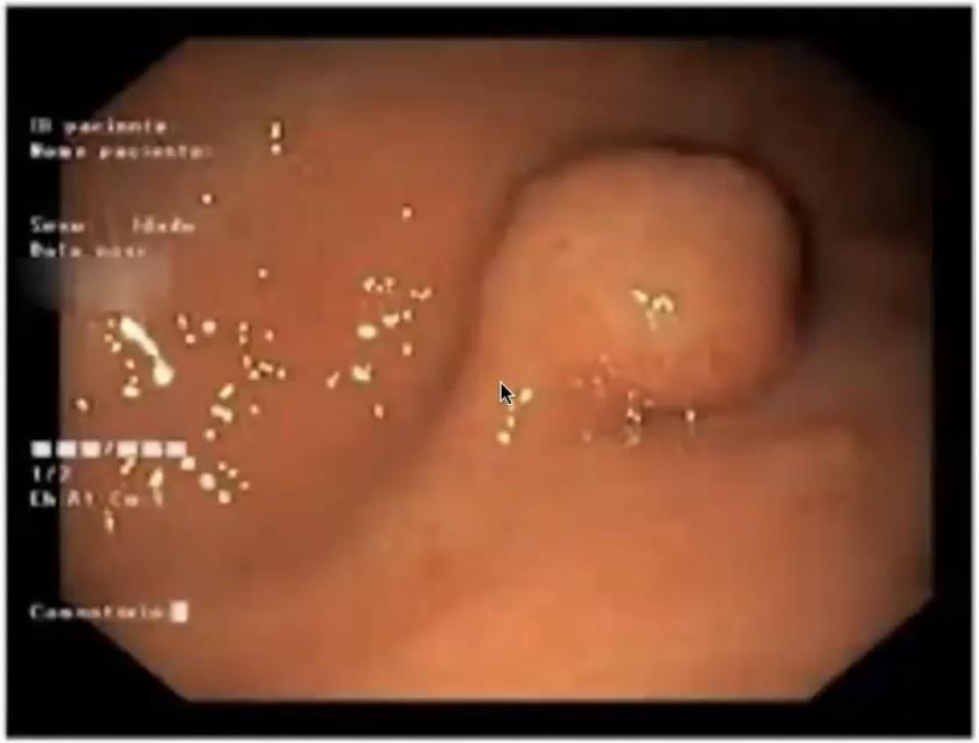
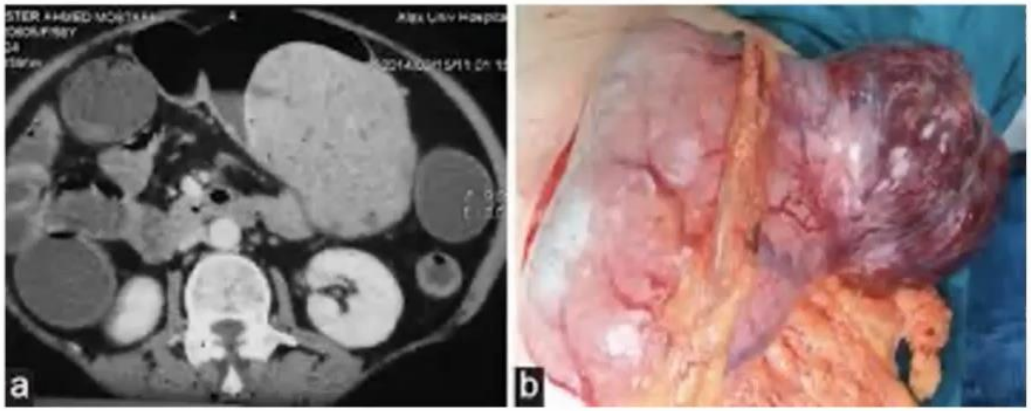


Fig. 1. Fifteen-millimeter SET located in the gastric fundus.

Gastric GISTs

- Presentation
  - Overt or occult gastrointestinal
  - Incidental finding (asymptomatic)
  - Abdominal pain/discomfort
  - Acute abdomen
  - Asymptomatic abdominal mass



Gastric GIST

- DDx:
  - lipomas
  - schwannomas
  - hemangiomas
  - leiomyomas
  - leiomyosarcomas

Histological Staining

Type	CD117	DOG-1	PKC-theta	CD34	SMA	S100 protein	Desmin
GISTs	+ (>95%)	+ (97%)	+ (72%)	+ (60 to 70%)	+/– (30 to 40%)	– (5% +)	Very rare
Leiomyoma	–	–		+ (10 to 15%)	+	–	+
Leiomyosarcoma	–	–	+ (10%)	–	+	–	+
Schwannoma	–	–	+ (10%)	–	–	+	–

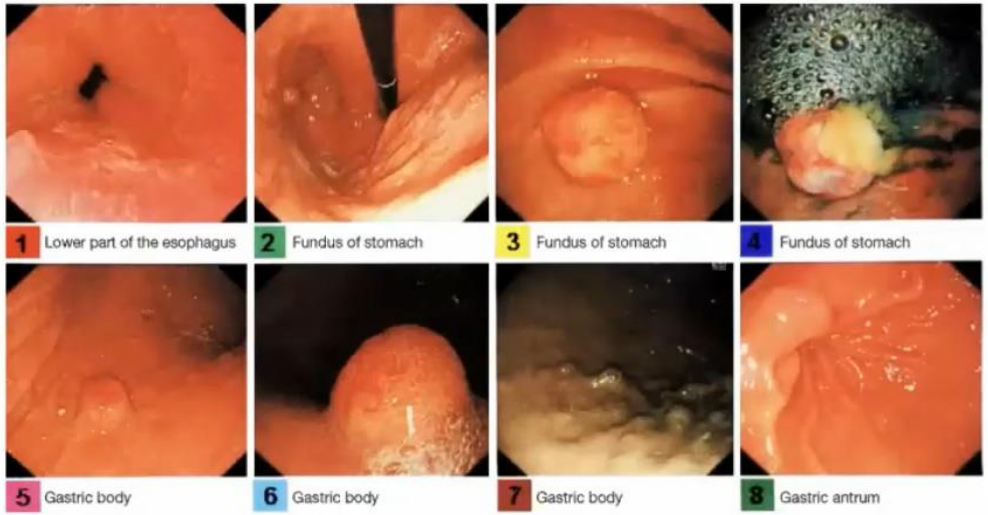
Gastric GIST

- Diagnosis
  - CT Scan
  - Endoscopy (EUS)
  - Biopsy

- Treatment
  - Surgery
  - Imatinib (Tyrosine kinase inhibitor)

Gastric Neuroendocrine tumors

- cancers that begin in specialized cells called neuroendocrine cells. Neuroendocrine cells have traits similar to those of nerve cells and hormone-producing cells



Gastric NETs

- Types:
  - Type 1 gastric NETs, which represent 70 to 80 percent of all gastric NETs, are associated with chronic atrophic gastritis.
  - Type 2 gastric NETs (~5%), The underlying cause of type 2 gastric NETs is a pancreatic or duodenal gastrinoma (Zollinger-Ellison syndrome).
  - Type 3 (sporadic) gastric NETs occur in the absence of atrophic gastritis or the Zollinger-Ellison syndrome (~20%).

- Management Based on Type