

University of Jordan Faculty of Medicine Batch of 2013-2019



Slide () Sheet () Handout Other

Anatomy

Embryology

Physiology

Histology







Same deficiencies in mucosal defences as chronic gastritis + hyperacidity

More common in $\ensuremath{\mathcal{S}}$

Any part of the GIT exposed to acid, commonly in:

- Proximal duodenum

- Antrum

Remember GERD, ectopia and heteropia

more common



Associated with:

- H.pylori
- NSAIDs (PGs)
- Steroids/ COPD (PGs)
- Smoking (blood flow)
- Alcoholic cirrhosis
- Hyperparathyroidism
- CRF (\uparrow Ca $\rightarrow \uparrow$ Gastrin)
- Psychological stress
- Zollinger-Ellison synd. (tumor/gastrin)

more common



Typically solitary

Classically a round to oval sharp punched out defect

Clean base (digestion) (A)

Richly vascular granulation tissue seen on histology (B)

Complications:

- Bleeding
- Perforation
- Iron deficiency anemia



Clinical features:

- Epigastric burning/pain
 1 to 3 hours after meals
 Worse at night
 Relieved by alkali/food
- N/V, bloating, belching
- Complications

Tx: H.Pylori eradication + PPI

Bleeding/perforation can occur requiring surgery

PUD morbidity>mortality



Gastric Polyps

- Hyperplasia
- Inflammation
- Ectopia
- Neoplasia



irregular, cystically dilated, and elongated foveolar glands

Gastric Polyps

Inflammatory & Hyperplastic Polyps

- Older age, 50-60yrs
- Background of chronic gastritis
- Typically multiple
- Ovoid
- Typically <1cm
- Smooth surface

Dysplasia correlates with size (>1.5cm)





Cystically dilated, irregular glands lined by flattened parietal and chief cells

Gastric Polyps

Fundic Gland Polyps

- Sporadic or with FAP
- No neoplastic potential
- Increased incidence with PPI use
- Multiple
- Well-circumscribed
- Body/Fundus

Asymptomatic or N/V, epigastric pain



Intestinal-type columnar epithelium, crowded, pseudostratification

High grade characterized by cribriform structure (arrows)



Gastric Polyps

Gastric Adenoma

- Increased incidence with age, 50-60yrs
- Background of chronic gastritis + atrophy + intestinal metaplasia
- Commonly in Antrum

Adenocarcinoma risk correlates with size (>2cm)







The most common malignancy of the stomach

Non specific early stage symptoms, similar to chronic gastritis

Low incidence regions \rightarrow late presentation:

- weight loss
- anorexia
- altered bowel habits
- anemia
- hemorrhage



Pathogenesis

CDH1 (E-Cadherin) mutation/methylation in diffuse-type

Germline APC mutations (FAP) patients have increased risk of intestinal-type

Sporadic intestinal-type:

- β-catenin mutations
- Microsatellite instability
- Hypermethylation (*TGF*β*R*, *BAX*, *IGFRII*, *p16/INK4a*)



Pathogenesis

H. pylori

Increased production of proinflammatory proteins (host polymorphisms increasing them further)

Increased risk of chronic gastritis associated intestinal-type gastric cancer



Pathogenesis

EBV

No *TP53* mutations (distinct molecular pathology, but still undefined)

Proximal stomach

Diffuse morphology with marked lymphocytic infiltrate



Morphology

Intestinal-type

- Bulky lesions exophytic mass or ulcerated tumor
- glandular structures
- Neoplastic cells have apical mucin vacuoles



Morphology

Diffuse-type

- Infiltrative growth
- Discohesive cells
- Large mucin vacuoles (signet ring cell)

A mass may be difficult to appreciate in diffuse gastric cancer, but desmoplasia can stiffen the gastric wall **(linitis plastica)**





Submucosal polypoid lesion Uniform cells Little pink granular cytoplasm Round/oval stippled nucleus

Carcinoid Tumor

Neuroendocrine organs/cells

Slow growing

Locations

- GI (SI)
- Tracheobronchial tree
- Lungs

Intense desmoplasia (obstruction)

When high-grade termed neuroendocrine carcinoma



Carcinoid Tumor

Clinical Features

- Peak age 60's
- Symptoms based on hormone produced

When confined to the GI hormones are under the first pass effect and rarely produce symptoms

If symptoms do occur it is strongly associated with **metastasis**



Carcinoid Tumor

Prognosis is strongly based on GI location

Foregut

- Rare metastasis
- Resection curative

Midgut

- Often multiple/large
- Aggressive/invasive

Hindgut

- Uniformly benign in the appendix
- Rectal symptomatic (hormones), occasional metastasis



solitary, well circumscribed, fleshy, submucosal mass



Spindle



Epitheloid

GIST

Most common mesenchymal tumor of the abdomen (stomach)

Peak 60's 🖒

Activating tyrosine kinase mutations (<u>c-KIT</u>, PDGFRA)

Liver metastasis



solitary, well circumscribed, fleshy, submucosal mass



Spindle



Epitheloid

GIST

Presents with mass effects or mucosal ulceration

Prognosis

- Size <5, >10cm
- Mitotic index
- Location
- Тх
- Surgical resection
- Imatinib