

Gastrointestinal tract pathology 2022-2023

GASTRIC TUMORS

+ Benign:

- POLYPS (Hyperplastic 75%, fundic15% and adenomatous10%)
- LEIOMYOMAS
- LIPOMAS

+ Malignant

- ADENOCarcinoma (90-95%)
- LYMPHOMA (mucosa associated lymphoid tissue tumor or MALTomas)

+ Potentially malignant

- G.I.S.T. (Gastro-Intestinal Stromal Tumor)
- CARCINOID (Neuroendocrine tumor)

Polyp: is any nodule or mass that projects above the level of the surrounding mucosa.

Hyperplastic polyps :Usually arising in a background of chronic gastritis that initiates the injury and reactive hyperplasia that causes polyp growth.

- ✓ The frequency of dysplasia in this polyp correlates with size (polyps larger than 1.5 cm in size ---- ↑↑ risk).

Adenomatous polyps: are true benign neoplasms and may turn into carcinomas, particularly if they exhibit dysplasia on biopsy.

Gastric carcinoma

- Insidious (slowly developing)
- Usually discovered in advanced stages
- Men>Women
- Occurs between the ages of 50-70

Risk factors for gastric carcinoma

1.Environmental

- High intake of alcohol and smoking
- Nitrate or nitrite in the food

2. EBV is associated with 10% of adenocarcinoma

3. Pre malignant conditions (Host factor)

- Gastric adenoma
- H.pylori chronic gastritis

4 . Genetic factors

- Blood group A have high incidence for gastric carcinoma

Gross features

1. Exophytic (large fungating mass).
2. Ulcerative the border of the ulcer is nodular and beaded, irregular not demarcated from the surrounding tissue.
3. Diffuse infiltrating the wall, causing marked thickening and loss of elasticity (leather bottle or linitis plastica).

Histological features

According to the Laurens classification:

1. Intestinal type:

- Glandular structure
- *H. Pylori* chronic gastritis

2. Diffuse type:

- Signet ring cell appearance (the tumor cells accumulate intracellular mucin pushing the nucleus to the periphery)
- No glandular formation

Spread of gastric Ca

1. Local spread to adjacent structures such as pancreas and duodenum.
2. Lymphatics to regional L.N or distant L.N (supra clavicular L.N).
3. Intra peritoneal spread and implanted in both ovaries (Krukenburg tumors).
4. Haematogenous spread to liver and lung

Gastric lymphoma:

- 5% of all gastric malignancy
- Better prognosis
- Helicobacter pylori has been associated with the development of mucosa-associated lymphoid tissue lymphoma (MALTomas).

SMALL AND LARGE INTESTINE

The small intestine and colon account for the majority of GI tract length and are the sites of a broad array of diseases.

Mucosa, submucosa, muscularis, and serosa

Malabsorption syndrome

Failure of absorption of nutrient fats, proteins, carbohydrates, vitamins & minerals.

Clinically: Chronic malabsorption can be accompanied by ; weight loss, anorexia, abdominal distention, and muscle wasting.

A hallmark of malabsorption is steatorrhea (excessive fecal fat; bulky, frothy, greasy and yellow stool).

Malabsorption results from disturbance in at least one of the following

- 1) **Intraluminal digestion** of proteins, carbohydrates, and fats in to absorbable form (e.g., Chronic pancreatitis/insufficiency)
- 2) **Terminal digestion:** Hydrolysis of carbohydrates and peptides by disaccharidases and peptidases in the brush border of the small bowel (e.g.,disaccharidase deficiency and brush border damage by bacteria).
- 3) **Transepithelial transport**, in which nutrients, fluid, and electrolytes are transported and processed within the small intestinal epithelium (e.g., Abetalipoproteinemia).
- 4) **Other**
 - Reduced mucosal surface area: celiac, crohn
 - Lymphatic obstruction: lymphoma, TB
 - Infection; environmental (tropical) enteropathy , whipple disease
 - Iatrogenic

Villous atrophy

It is the most important pathological changes in malabsorption syndrome and can be classified into :

1. Partial villous atrophy
2. Subtotal villous atrophy

Partial villous atrophy

- The villi are shorter and broader than normal.

Subtotal villous atrophy

- It is more severe than partial villous atrophy
- There is severe shortening of the villi .
- The mucosa looks flat.

CELIAC DISEASE

- Also called non-tropical sprue or gluten-sensitive enteropathy
- It is an immune-mediated enteropathy triggered by the ingestion of gluten-containing cereals, such as wheat, rye, or barley
- Relieved by gluten withdrawal
- High risk of malignancy –lymphoma.
- **Morphology:**
 - ✓ Biopsy specimens from the second portion of the duodenum or proximal jejunum
 - ✓ Increased numbers of intraepithelial T lymphocytes, crypt hyperplasia, and villous atrophy.

Environmental Tropical Enteropathy

- Also called tropical sprue.
- Occur in people living or visiting the tropical areas (Caribbean, central and south Africa, India, south east Asia, central and south America).
- NOT related to gluten
- The exact cause is unknown
- Recovery with antibiotics
- Small intestinal biopsy shows partial villous atrophy and inflammation of the intestinal mucosa.