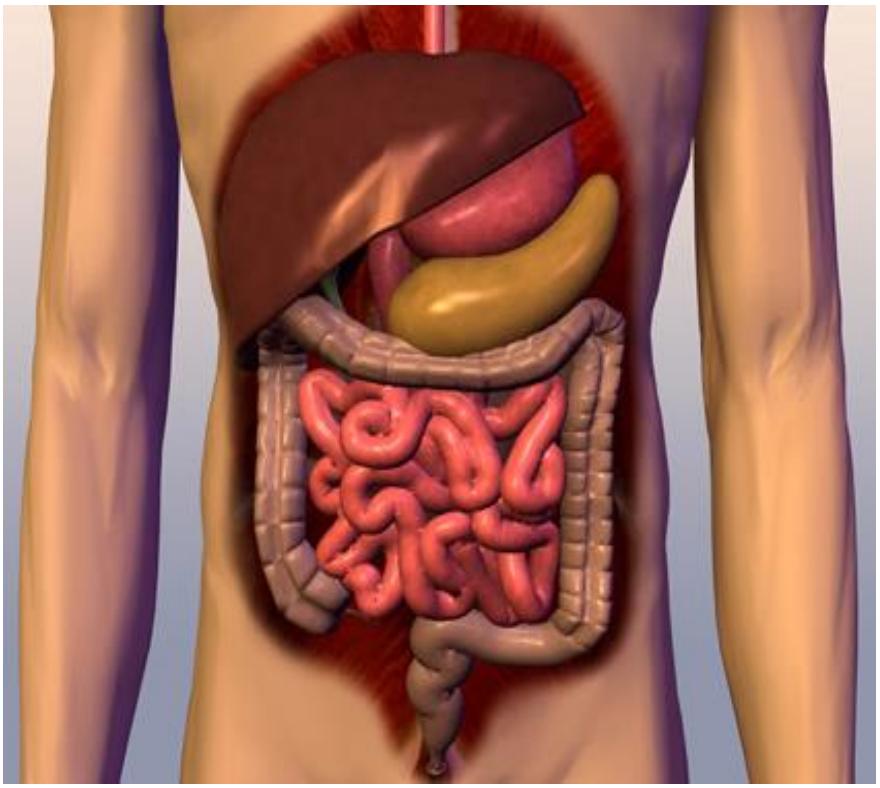


Cases:

1- Pleomorphic Adenoma
2- GERD
3- Barret's
4- Carcinoma of esophagus
5- PUD
6- Gastritis
7- Carcinoma of the stomach
8- Duodenal Ulcer
9- Coeliac disease
10- Carcinoid tumor

Pathology

Practical (1)

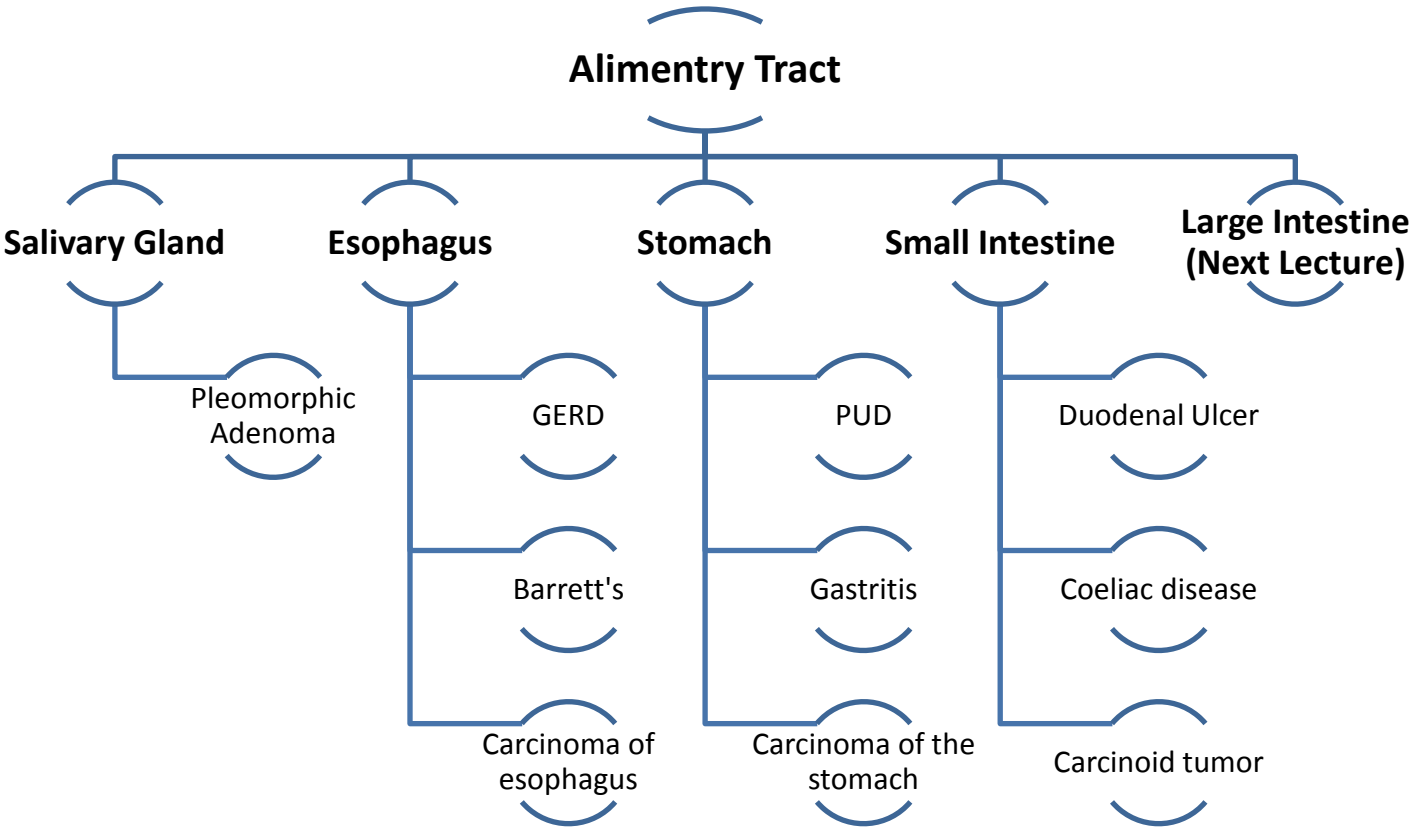
*432 **Pathology** Team*

Done By: Abdulrahman ArJ. & Osamah Alsagheir

Reviewed By: Razan Alhoqail & Noor Alzahrani

GIT Block

Mind Map:


Alimentry Tract
Salivary Gland
Esophagus
Stomach
Small Intestine
Large Intestine (Next Lecture)
Pleomorphic Adenoma
GERD
Barrett's
Carcinoma of esophagus
PUD
Gastritis
Carcinoma of the stomach
Duodenal Ulcer
Coeliac disease
Carcinoid tumor

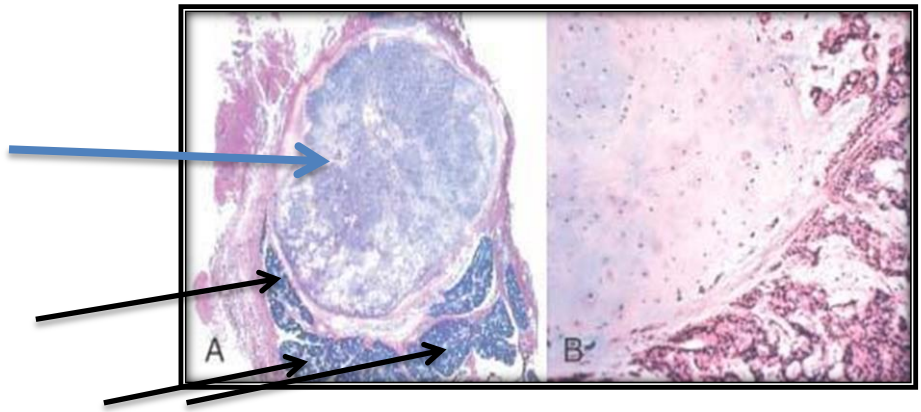
1-Pleomorphic Adenoma

Mixed benign tumor of the salivary gland with rare malignant transformation.
N.B: mixed tumors are generally benign *(hence the name pleomorphic = mixed)*

Gross (Macroscopic) Features:

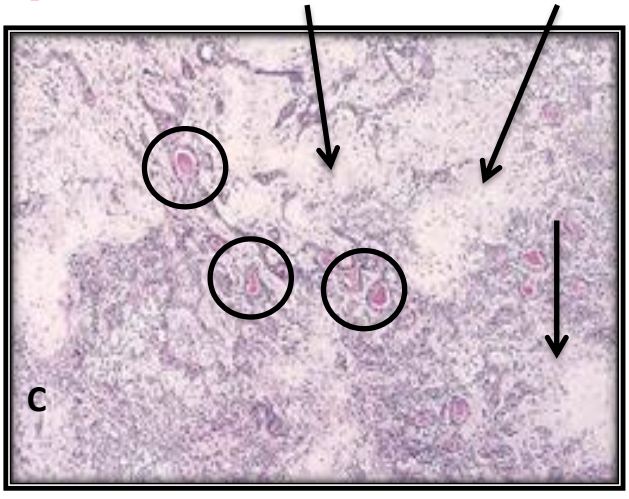
Left Parotid gland swelling on the lateral side of the neck with intact overlying skin (i.e., no changes in the skin color or ulceration) N.B: it's important to write the affected organ.

Histopathological features



(A) Low-power view showing a well-demarcated tumor (blue arrow) with adjacent normal salivary gland parenchyma (black arrow).
(B) High-power view showing epithelial cells & myoepithelial cells *within Chondromyxoid stroma*

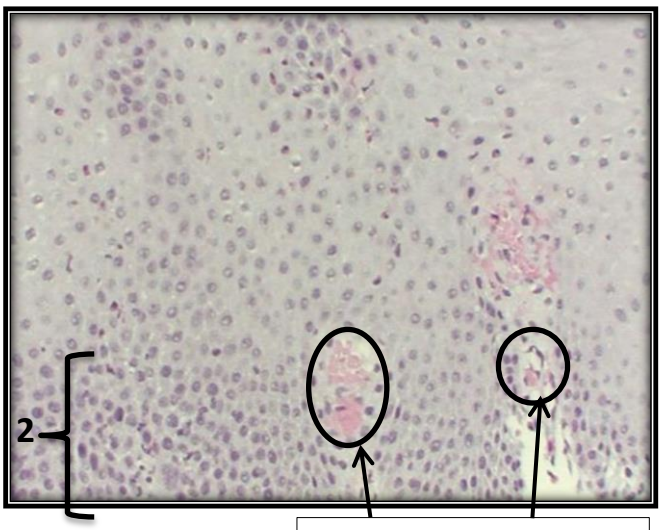
(C) 1-Proliferation of epithelial cells(glands) forming ducts & aceni
2- Proliferation of myoepithelial cells which form the sheets and stroma around the ducts (1&2, circles)
3- Chondromyxoid stroma (the pale areas, arrows)



Prognosis: Good if it completely excised
Clinical examination: Palpation
Lab investigations: fine needle aspiration cytology (FANC), to detect whether it's benign or malignant
Curative (clinical outcome): By excision, and *may recurrent if not completely excised*

2-Gastro Esophageal Reflux Disease (GERD)

Histopathological features



- Organ: Esophagus
- Diagnosis: Reflux / GERD
- Histopathology (3 features):

  1) Presence of the inflammatory cells
    - Eosinophils
    - Neutrophils
    - Lymphocytes

  (Either one of them or all of them)

  2) Basal zone hyperplasia (More than one layer)

  3) Elongation and congestion of Lamina propria (not shown in the pic)

- Basal cell ➔ Dark ones
- All these features\changes are within the mucosa.

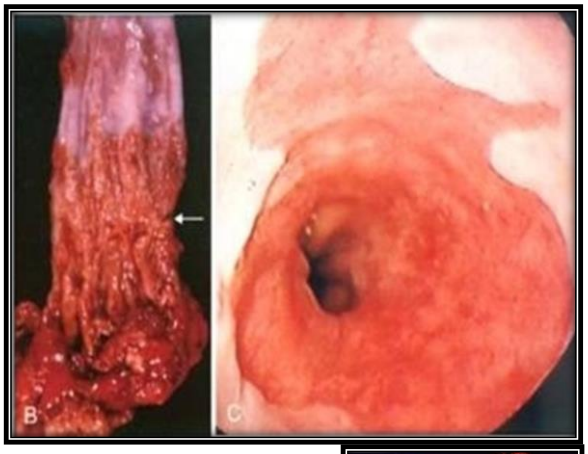
The main complication is:
Barrett's esophagus.

Other complications:
Strictures,
Erosive esophagitis (Most common)

3-Barrett's Esophagus

It's a risk factor of adenocarcinoma, and patients with Barrett's esophagus need a regular check ups to detect the dysplasia

Gross (Macroscopic) Features:



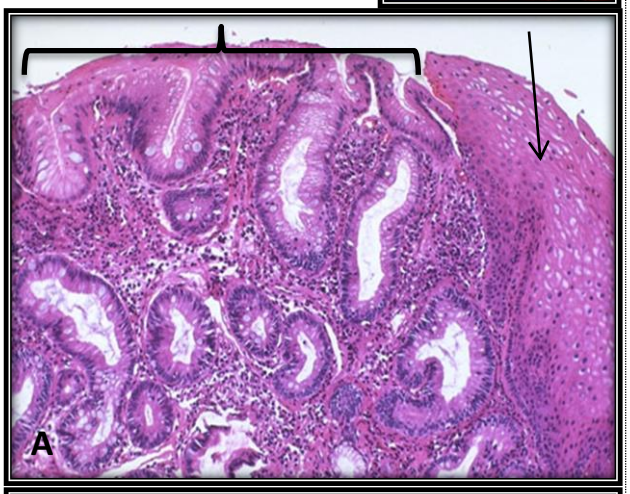
(B) Red and congested mucosa of Barrett's esophagus at the gastroesophageal junction (the arrow refers to the junction b\w the esophagus and the stomach, and we can see the extension of the gastric mucosa above it)

(C) Red velvety (rugae) gastroesophageal mucosa extending from the orifice

(A) This is a picture of adenocarcinoma, and it shows An ulcerated, exophytic (extended) mass at the gastroesophageal junction **(for illustration only)**

Histopathological features

(A) – Intestinal metaplasia: columnar epithelium. (Left). Adjacent to the normal squamous epithelium. (Black arrow)
- Glandular epithelium. with goblet cells metaplasia within the columnar cells.
- Chronic inflammatory cells



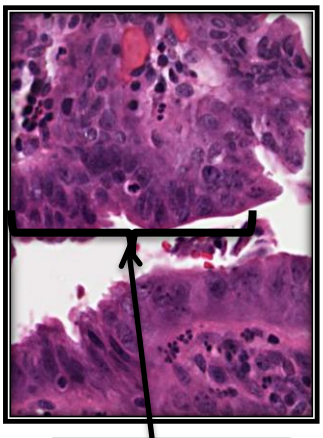
(B) Intestinal metaplasia

IMPORTANT:

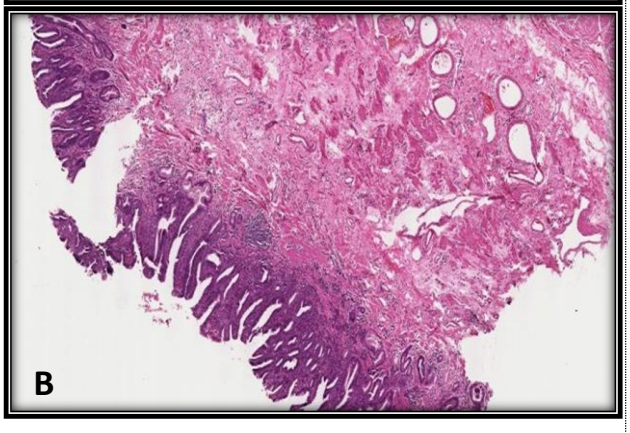
Intestinal metaplasia = goblet cell metaplasia, so u can describe this as the following:-

-Intestinal\Goblet cell metaplasia.

-Columnar epth. adjacent to the squamous epth.



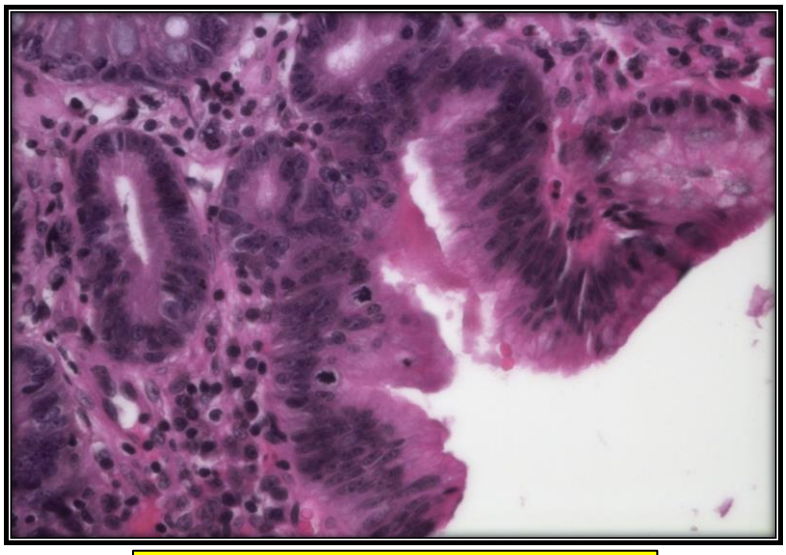
Dysplasia



The presence of goblet cells at the gastroesophageal junction is the most important feature of Barrett's esophagus (intestinal metaplasia).

- N.B: In Barrett's esophagus there is extension of the columnar epithelium of the stomach to parts of the esophagus.
- N.B: Barrett esophagus should be confirmed by biopsy and always check for the dysplasia (picture below)
- N.B: Barrett esophagus is a risk factor of **"Adenocarcinoma".**

Metaplasia (BARRETT'S ESOPHAGUS) → dysplasia → adenocarcinoma



Glandular dysplasia, cells are hyperchromatic with enlarged nuclei

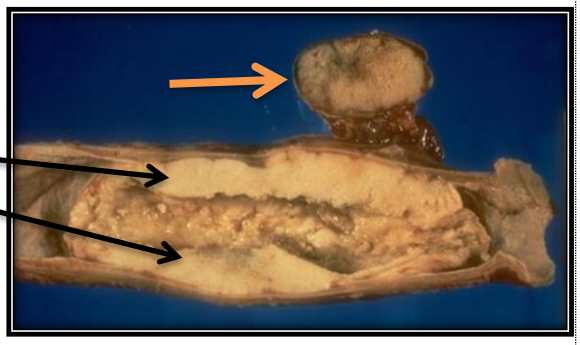
4-Carcinoma of esophagus

Squamous cell carcinoma

Gross (Macroscopic) Features:

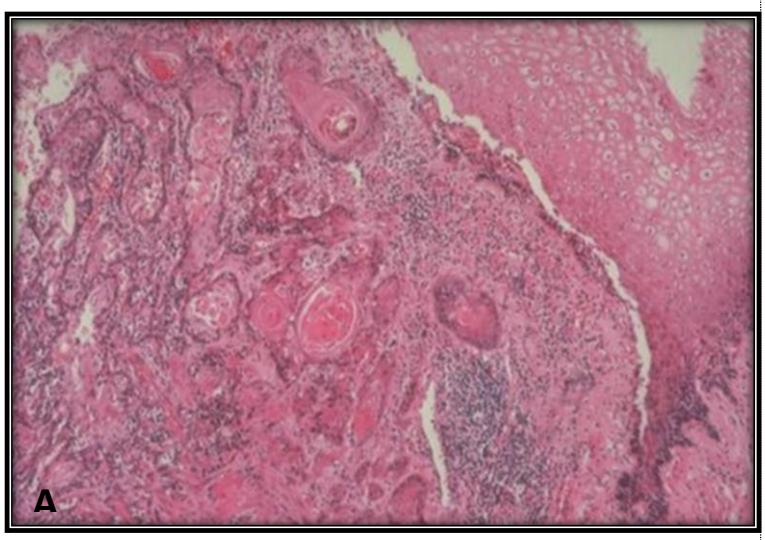
- **Esophageal pale & whitish mass infiltrating and narrowing the lumen.**

- **Enlarged para-esophageal lymph node mostly containing metastatic deposits (Arrow).**



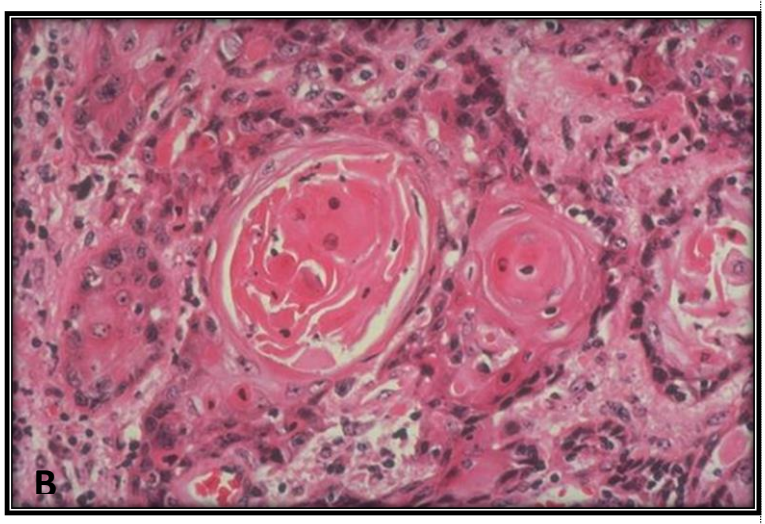
Histopathological features

(A) -Sheets of malignant squamous cell infiltrating the submucosa and lamina proprai
- Keratinization is present.

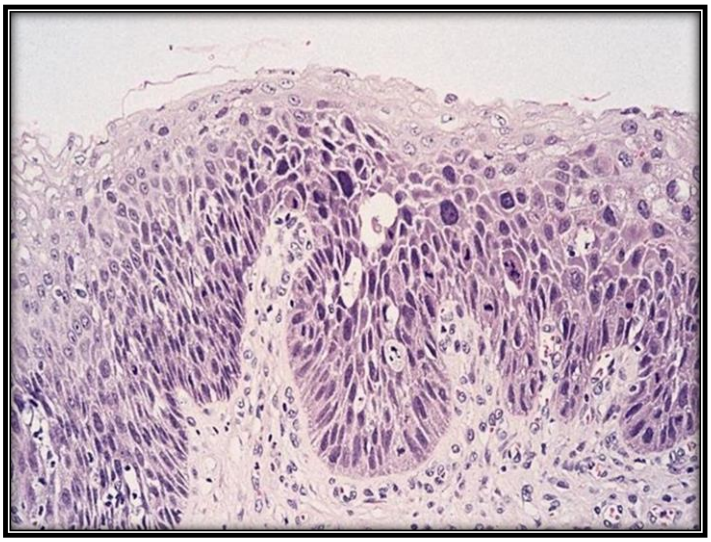


(A,B) The malignant squamous cells are pleomorphic with esinophilic cytoplasm, hyperchromatism and mitosis .

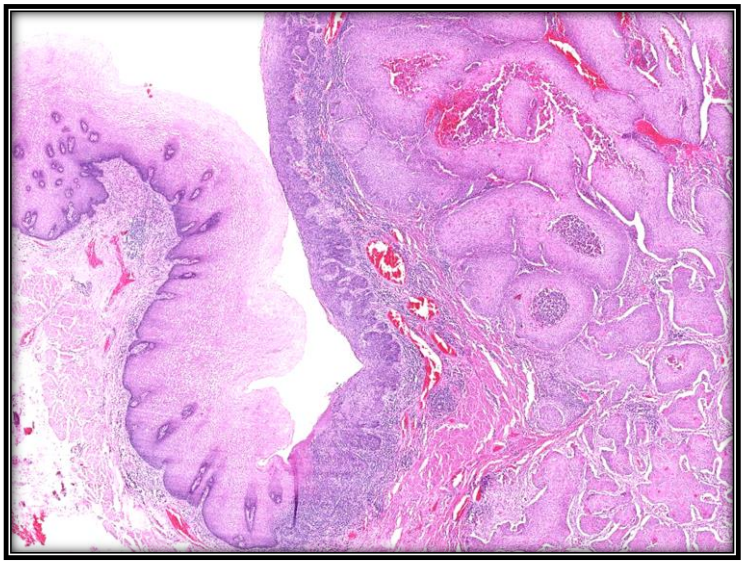
(((These are the main histopathological discriptions for this case.)))



This's a picture explaining the stages of malignancy transformation, starting with:
1-Dysplasia: Pre-malignant changes to the cells w\out invasion.
2-in-situ: complete or sever dysplasia (no invasion yet)
3- infiltration: rupture to the basement membrane. & invasion of malignant cells to lamina propria and sub mucosa



Picture showing dysplasia in-situ where there's a complete dysplasia to the squamous cells without any infiltration or rupture to the b.mb.



The left side has a normal squamous epth. even the basal layer is very dark, while the right side is pretty messed up, where there's a rupture to the b.mb. with invasion of the malignant cells to the lamina propria and submucosa.

Risk factors: Smoking and alcoholism, Barrett's Esophagitis , Achalasia

5-Peptic ulcer disease

Peptic ulcer disease (PUD) is a chronic condition most often is associated with H. pylori infection or NSAID use. It mostly affects the gastric antrum and first portion of the duodenum.

Gross (Macroscopic) Features:

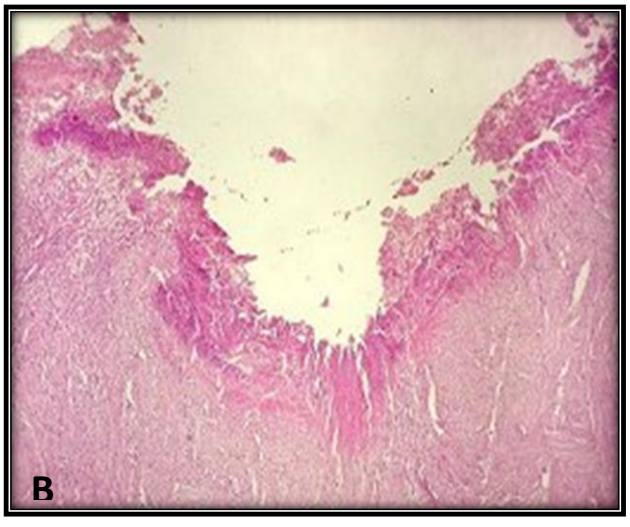
Peptic ulcer of the doudenum & stomach:

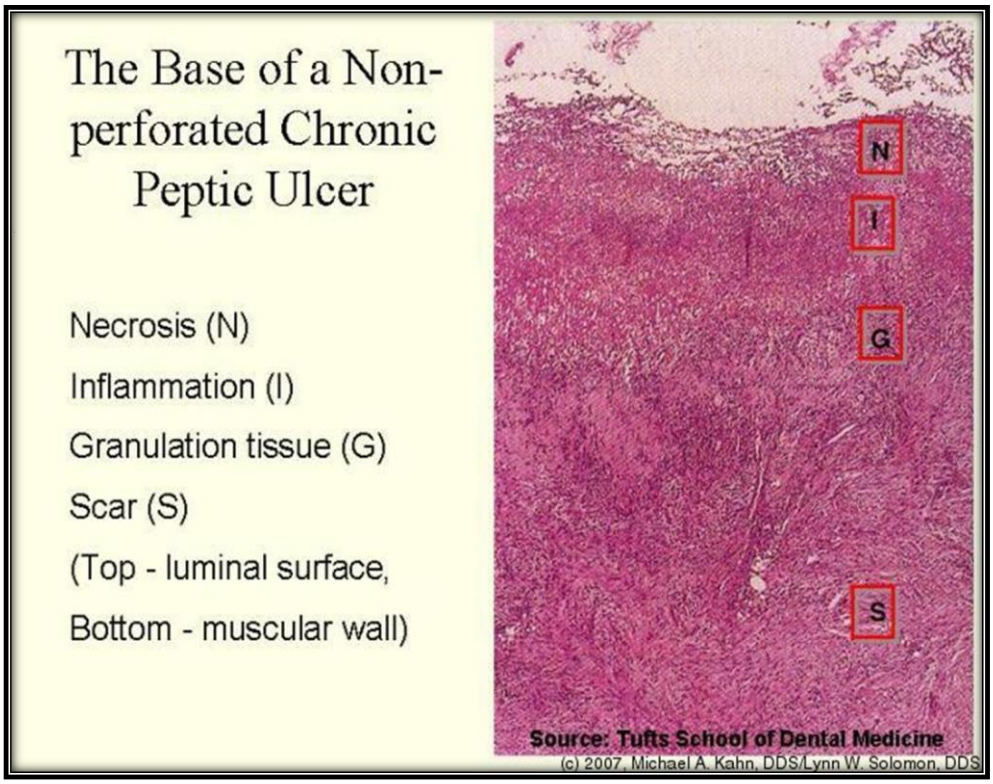
-Sharply **punched out ulcer**
-The margins not elevated
-**The ulcer base is clean.**

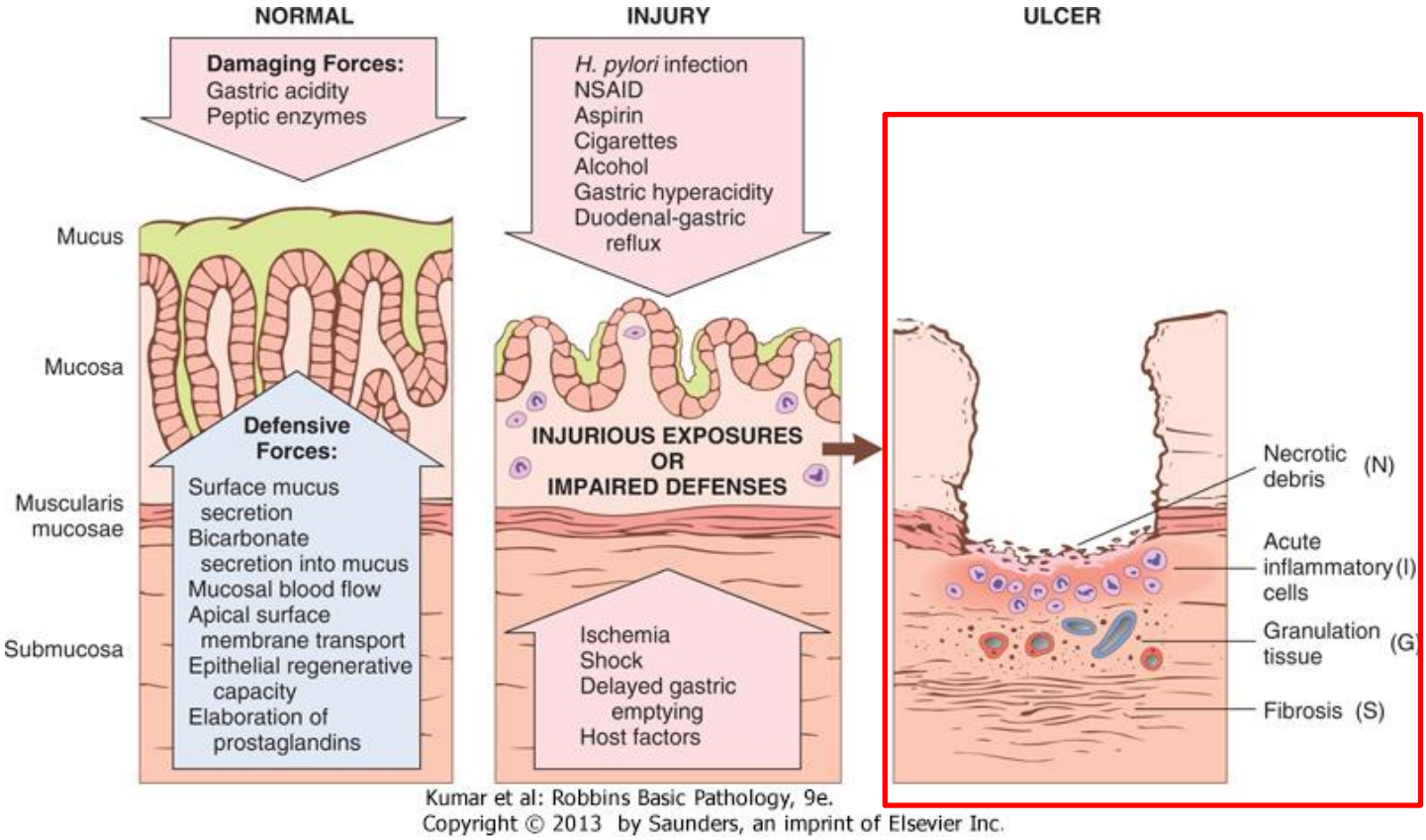
Ulcer Vs Erosion: Ulcer extends to the submucosa or deeper, while the erosion only affect the mucosa
Ulcer in adenocarcinoma (rolled margin with hemorrhage and necrosis)
H.pylori infections is a risk factor for the malignant transformation of the duodenum or stomach to adenocarcinoma.

Histopathological features

(A,B) – Loss of columnar epithelium.
- Necrosis, inflammatory cells, granulation tissue & scar







Kumar et al: Robbins Basic Pathology, 9e.

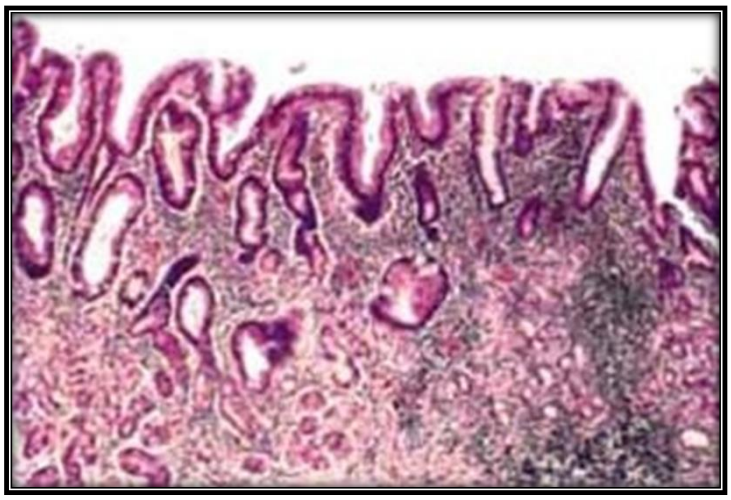
6-Gastritis

NOT IMPORTANT

It's important to mention if it's H.pylori induced or not, based on the histology section.

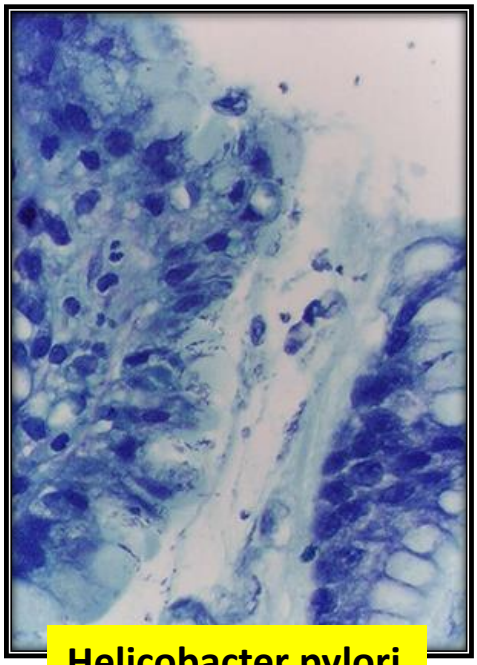
Histopathological features

- **CHRONIC, NO EROSIONS, NO HEMORRHAGE**



- Organ: Stomach
- Diagnose: Gastritis induced by H.pylori
- Histopathology:
  - ➢ Regenerative changes
  - ➢ Inflammatory cells & lymphoid follicles

Helicobacter pylori
Sliver stain



Helicobacter pylori
Giemsa stain

7- Carcinoma of the stomach

Two types of gastric carcinomas: Intestinal type, & diffuse type

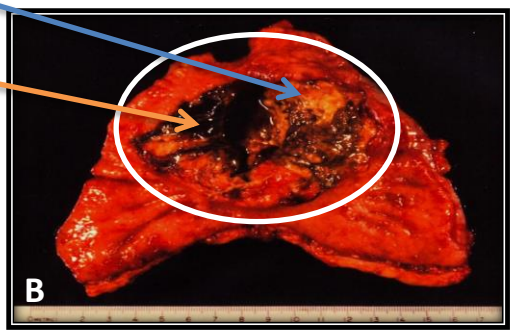
Gross (Macroscopic) Features

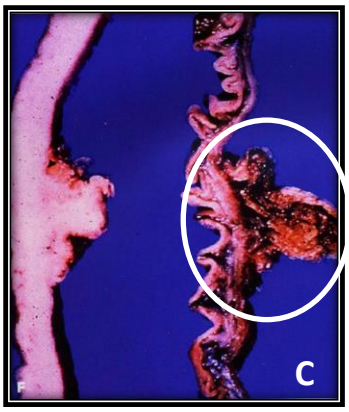
Intestinal types

(A) An ill defined ulcerated mass surrounding by irregular heaped up borders

(B&C) An infiltrative gastric mass with areas of hemorrhage and necrosis

(D) Greatly thickening of the gastric wall (Linitis plastica)





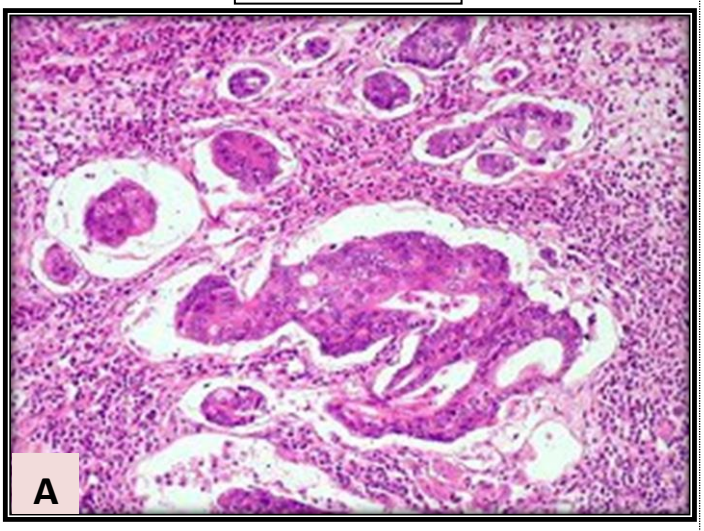
Diffuse type

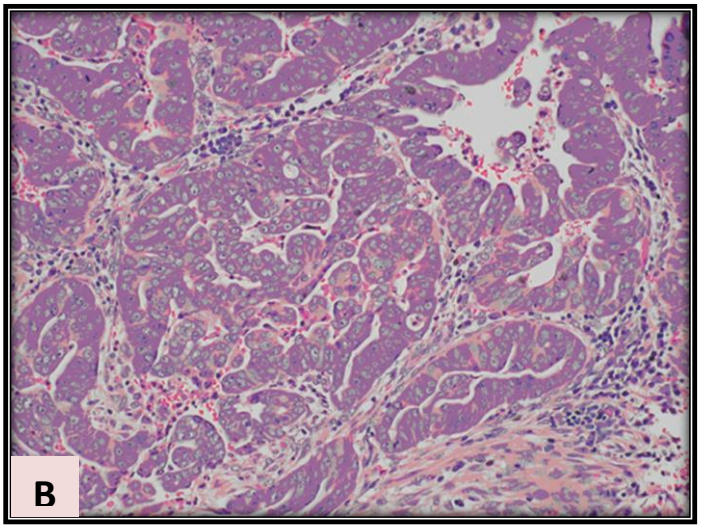
Histopathological features

(A,B)
– Malignant cells forming glands infiltrating the lamina propria (stage 1)
[if it reaches the submucosa (stage 2), musc. externa (stage 3), adventitia (stage 4)]

- The malignant cells are Pleomorphic, hyperchromatic with mitosis .
- Inflammatory cells.

Intestinal types

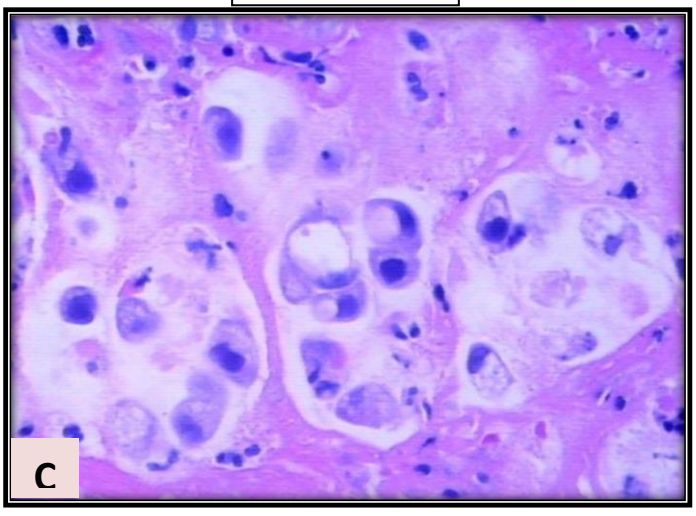




(C) Signet-ring malignant cells infiltrating the wall of the stomach. (peripheral nuclei, with mucin in the cytoplasm)

It has a horrible prognosis.

Diffuse type



Those large pale areas in the cytoplasm represent intracellular mucin which pushes the nucleus to the periphery giving the cell signet ring appearance

8- Chronic Duodenal Ulcer

NOT IMPORTANT

Ulcer: the loss of mucosal epth. extending to the submucosa or deeper layers
Most common cause: H.Pylori infections

Gross (Macroscopic) Features

(A) Large and hemorrhagic duodenal ulcer. Note: the sharp edges of the ulcer (arrows)

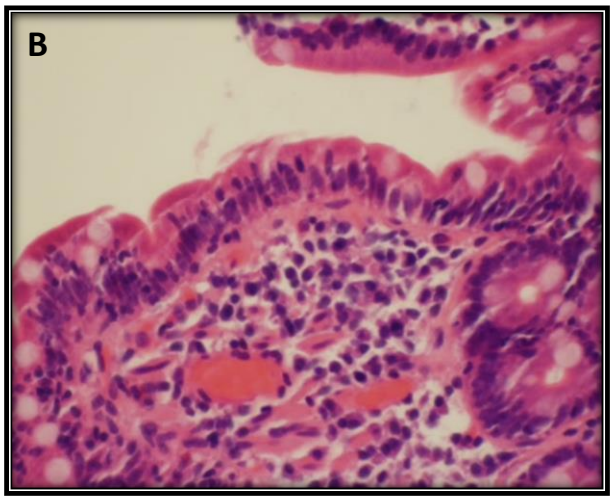
9- Celiac disease

*Gross features:

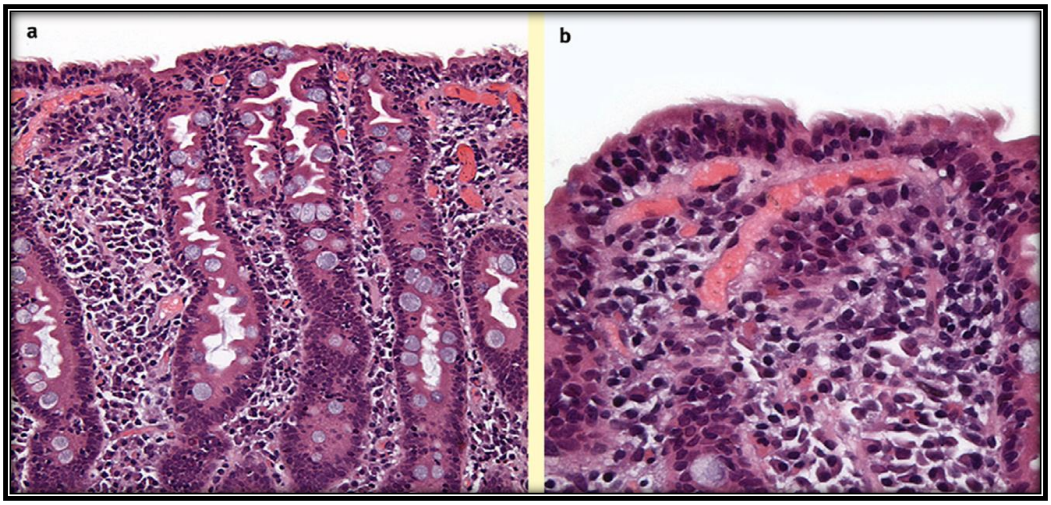
-Loss of villi

*Histopathological features:

(A) Loss of villi
(B) Increased intraepithelial lymphocytes



Etiology:
Autoimmune & inflmmatory
Ingested food & Infectious
Serology:
Serology is +ve for IgA to tissue transglutaminase or IgG to deamidated gliadin or anti-endomysial antibodies
Complication:
Osteoporosis & T-cell lymphoma



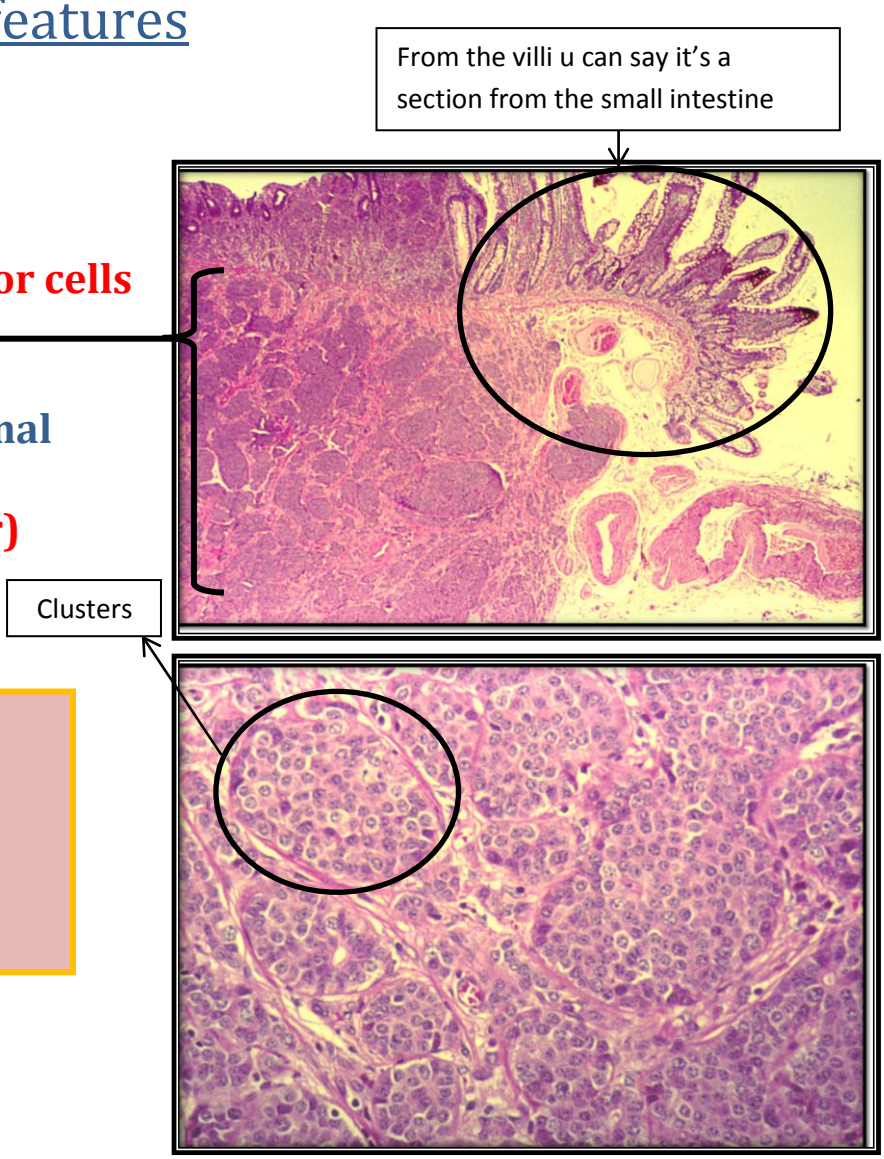
(A) Low-power view of fully developed sprue-type changes. Note the elongated crypts with complete lack of villi.
(B) High-power view showing damaged surface epithelium with large numbers of intraepithelial lymphocytes.

10- Carcinoid tumor

Benign tumor.

Histopathological features

- **Cells are uniformed**
- **Nests & clusters of tumor cells in the submucosa.**
- **Tumor cells are polygonal with round nuclei, and granular (salt & pepper) chromatin. (2nd picture)**



Cell of origin:
Mucosal neuroendocrine cell-
Symptoms of carcinoid syndrome:
Bronchospasm, Flushing, Diarrhea and Valvular lesions

What is carcinoid tumor and how it is developed?
The principal chemical mediator is serotonin
Carcinoid tumor of the small intestine produces SEROTONIN.
Then, when the liver is destroyed because of this GIT metastasis and serotonin won't be detoxified and it will reach the systemic circulation causing the symptoms

PATHOLOGY TEAM LEADERS:

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Roqaih Al-Dueb

432 Pathology Team

*Good Luck ^_^*

اللهم إني استودعك ما قرأت و ما حفظت و ما تعلمت فرده عليَ عند حاجتي إليه انك على كل شيء قدير

If there is any mistake or feedback please contact us: 432PathologyTeam@gmail.com