

Cases:

- 11- Crohn's disease
- 12-Ulcerative colitis
- 13-Adenomatous polyp
- 14-Familial Polyposis
- 15-Colon Carcinoma
- 16-Chronic Hepatitis
- 17-Hepatic Cirrhosis
- 18-Hepatocellular Carcinoma
- 19-Chronic cholecystitis
- 20-Acute Pancreatitis
- 21-Chronic Pancreatitis
- 22-Pancreatic adenocarcinoma

Pathology

Practical (2)



432 Pathology Team

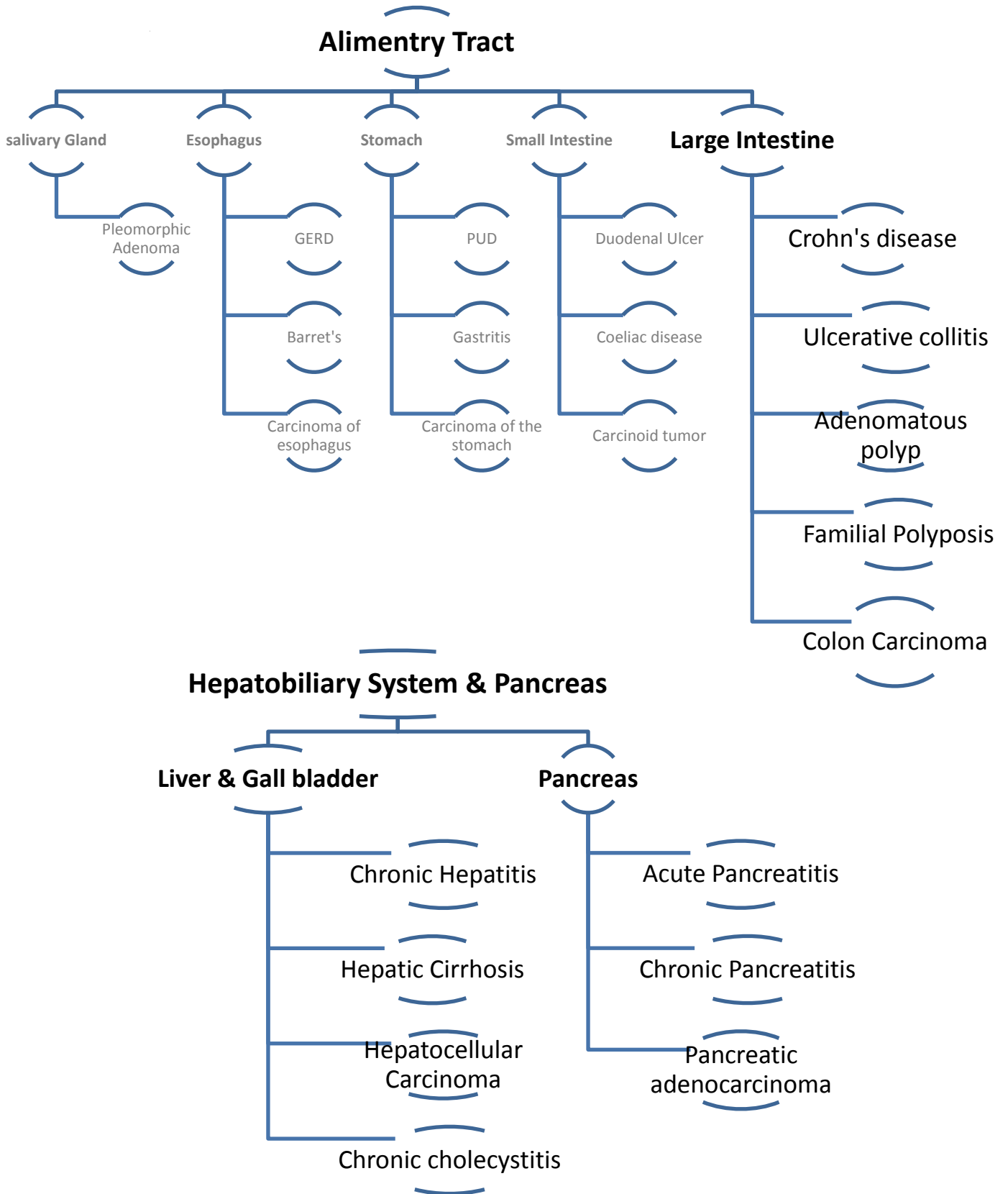
Done By: Abdulrahman ArJ.

Reviewed By: Noor Alzahrani & Manar Aleid

GIT Block



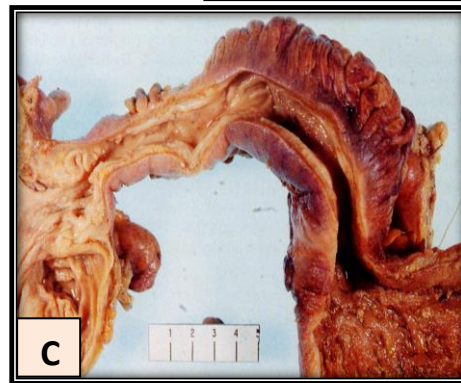
Mind Map:



11-Crohn's disease

Gross (Macroscopic) Features:

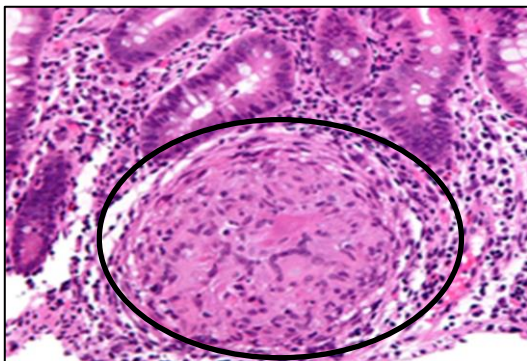
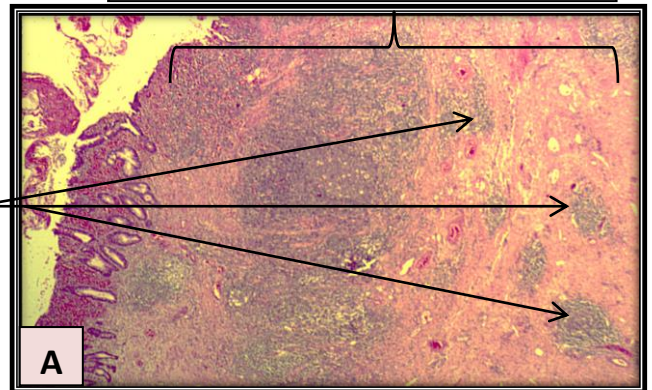
- (A) **Snake-like ulcers**, and they're separated from each other by normal mucosa (**skip lesions**)
- (B) Ulcerated and hemorrhagic mucosa **with cobblestone appearance**, note the presence of normal looking mucosa (skip lesions)
- (C) - **Thickening of the bowel wall.**
 - **Creeping fat.**
 - **Narrowing of the lumen.**



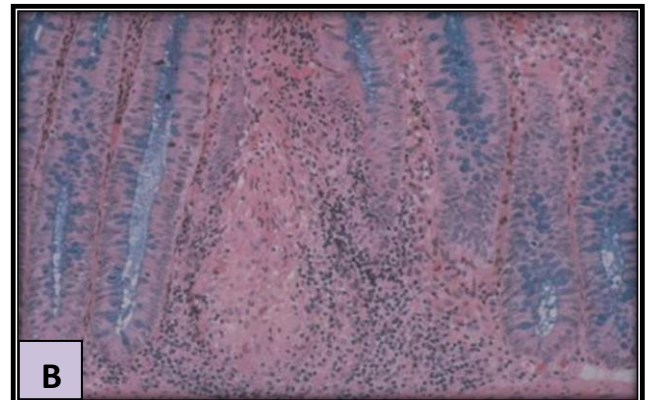
Histopathological features

- (A,B) - **Transmural** (the whole thickening of wall) **chronic inflammatory cells infiltration.**
- **Non-necrotizing epithelioid granuloma**

Chronic inflammatory cells infiltrating the whole thickening of the wall



Epithelioid granuloma



12- Ulcerative Colitis

Gross (Macroscopic) Features:

(A) - **Ulceration with mucosal congestion and hemorrhage of colon**
 - **Absence of the rugae folds.**

(B) **Pseudopolyps** and hemorrhagic ulcerated areas.

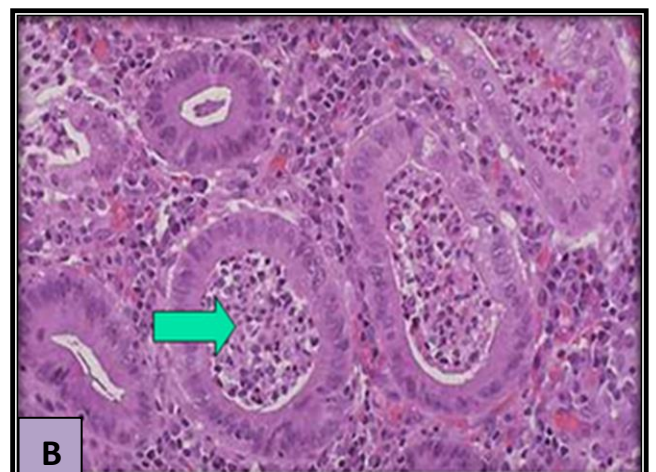
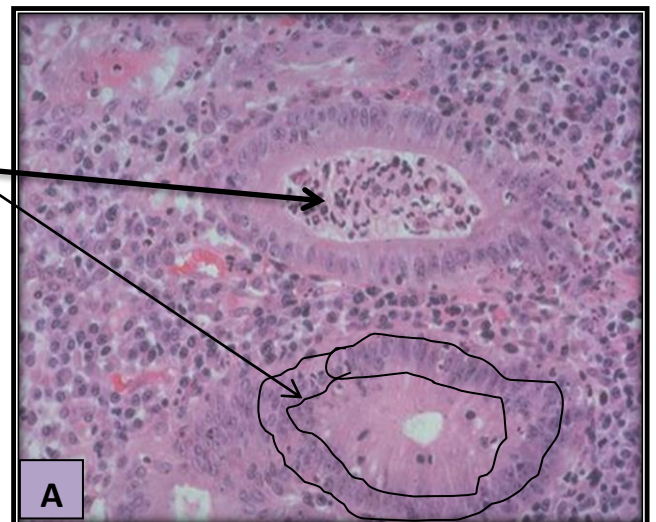


Histopathological features

(A&B) - Cryptitis (seen better in A)
 - Crypt abscess (Arrow in B)
 - Goblet cells depletion.
 - In between: Inflammatory cells

(N.B: there's no granulomas, which is a characteristic feature of Crohn's disease)

(N.B: it's important to know the characteristic Features That Differ Between Crohn Disease and Ulcerative Colitis)



The main complications:

- Toxic mega colon
- Glandular dysplasia
- Adenocarcinoma
- Perforation of colon

	Crohn's disease	Ulcerative Colitis
Site	Any part of the GIT	Colon only
Pattern	Skip areas of normal mucosa	Diffuse involvement of mucosa
Depth of the ulcer	Deep ulcers (fissure)	Superficial ulcers
Extent of inflammation	Transmural inflammation	Mucosal inflammation only
Fistula formation	Yes	No
Creeping mesenteric fat	Yes	No
Fibrous thickening of wall	Yes	No
Granulomas	Yes	No
Dysplasia	rare	Common
Carcinoma	rare	more common (10%)
Mucosal appearances	Cobblestone	Pseudopolyps
Bowel wall	Thickened wall Narrow lumen	Thin wall Dilated lumen
Complications	Short gut syndrome Fistula formation Bowel perforation Stricture formation	Haemorrhage Electrolyte loss Toxic megacolon Systemic effects

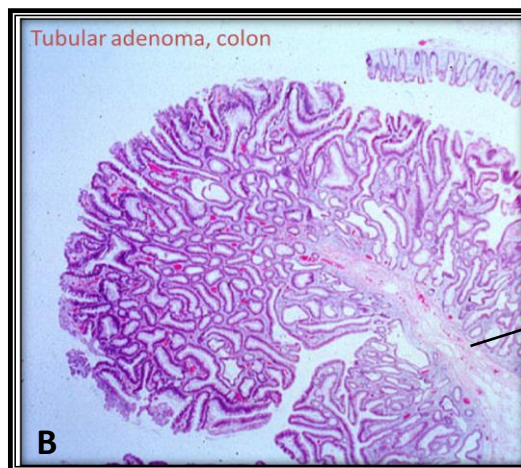
13- Adenomatous polyp

Gross (Macroscopic) Features:

(A,B) **Polypoid mass arising from the colon mucosa.**



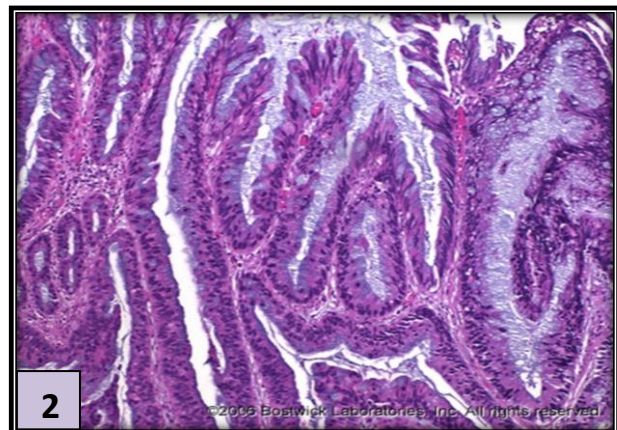
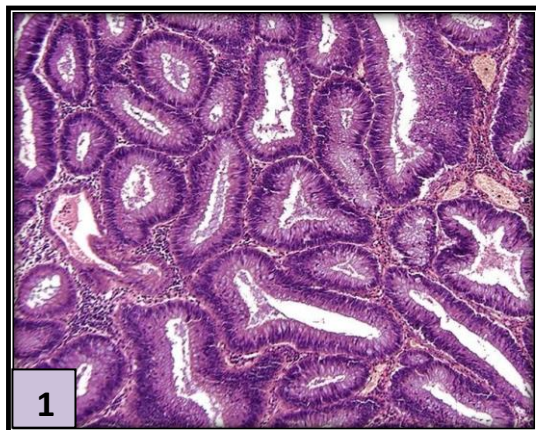
Histopathological features



Pedunculated stalk

Features of polyps dysplasia:-
 -Hyperchromasia
 -Goblet cells depletion

- (A) **Dysplastic polyp.**
 - (B) **Proliferative of glandular epithelium with dysplasia**
 - (C) **In between: Inflammatory cell**
- Two types of polyps:



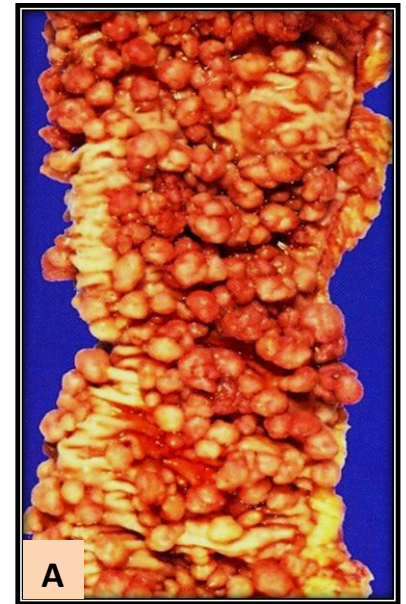
1- **TUBULAR: Crowded dysplastic glands with chronic inflammation.**

2- **VILLOUS: elongated villous with dysplasia >> BAD PROGNOSIS**

14- Familial Adenomatous Polyposis

Gross (Macroscopic) Features:

(A,B) numerous mucosal polyps in colon
“not hemorrhagic”



Microscopic features (no picture):

Proliferative glands

Cause:

It is caused by mutations of the adenomatous polyposis coli, or **APC gene**

Complication:

The major complication is development of adenocarcinoma of colon

15- Colon Adenocarcinoma

Gross (Macroscopic) Features:

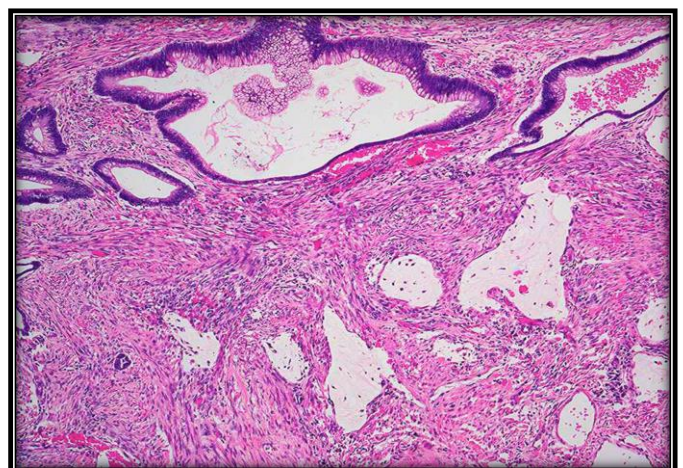


(All pictures) **infiltrative and irregular colonic tumor mass “colic flower” causing narrowing of the lumen “might cause obstruction”, with necrosis.**

Histopathological features

(A,B): -

- Crowded dysplastic glands.
- Glands has neoplastic cells with Hyperchromatism, pleomorphism, and few mitosis.
- The glands invade the muscle coat.
- Area of necrosis
- Cribriform glandular formation
- Villous adenoma



Predisposing factors:

Ulcerative colitis, Familial adenomatous polyposis, Crohn's disease, Large bowel polyps.

The major complication of these is development of adenocarcinoma of colon

16- Chronic Hepatitis

Gross (Macroscopic) Features:

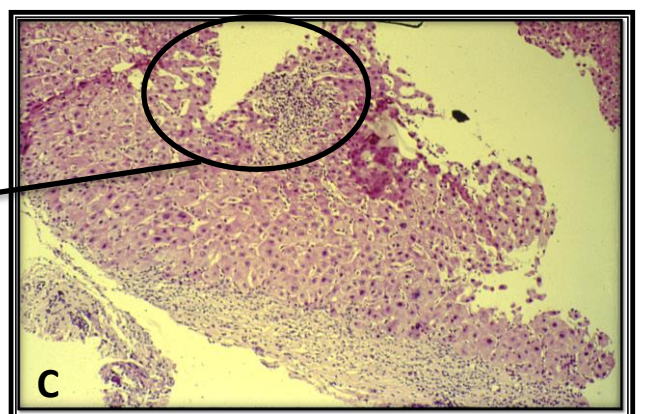
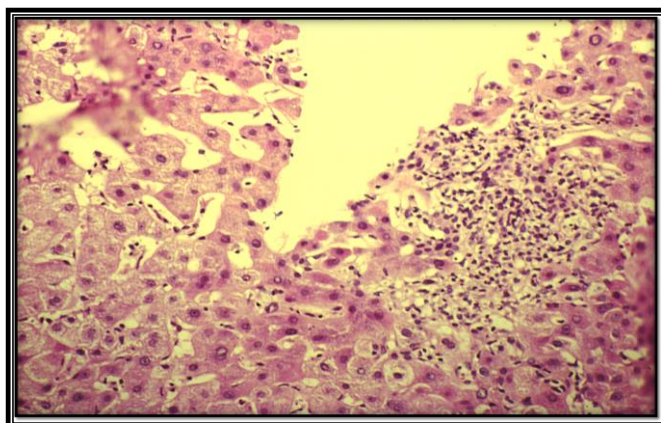
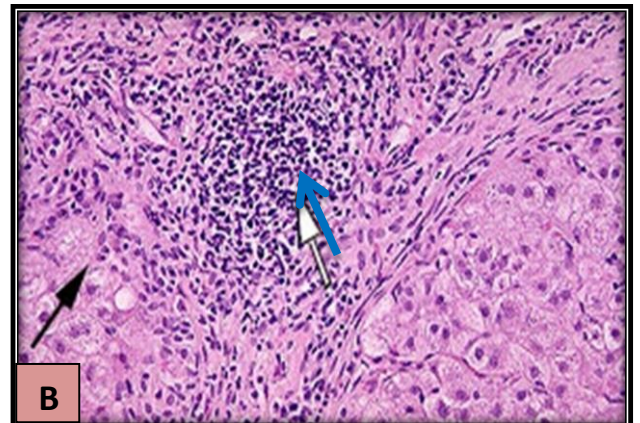
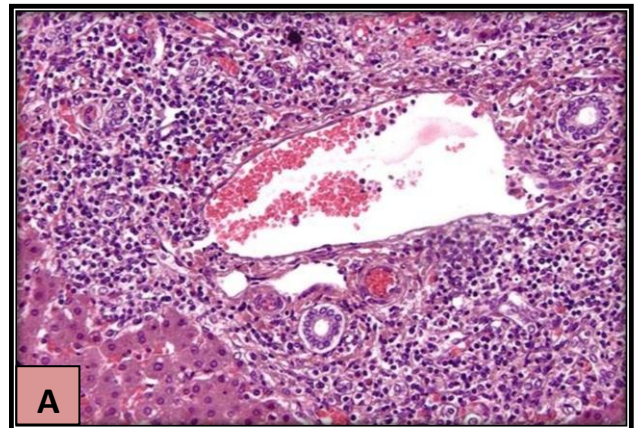
- Part of the liver showing edema and pale areas
(There are no clear changes!!)



Histopathological features

(A,B,C) - **Chronic inflammatory cells infiltrating the portal tract**, and might extend to the sinusoids. (Blue arrow)

- **Piecemeal necrosis** (Black arrow)
(necrosis in junction between the portal area and hepatocytes)

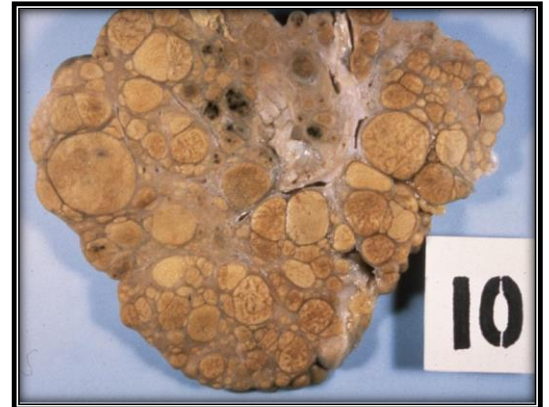


17- Hepatic Cirrhosis

Cirrhosis: it's a regeneration of nodules and fibrosis

Gross (Macroscopic) Features:

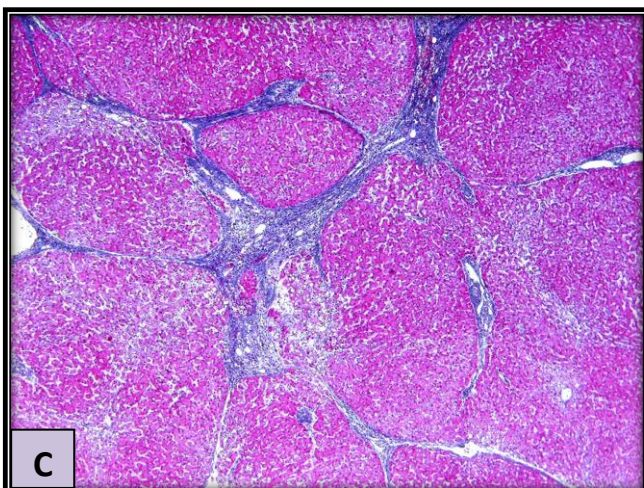
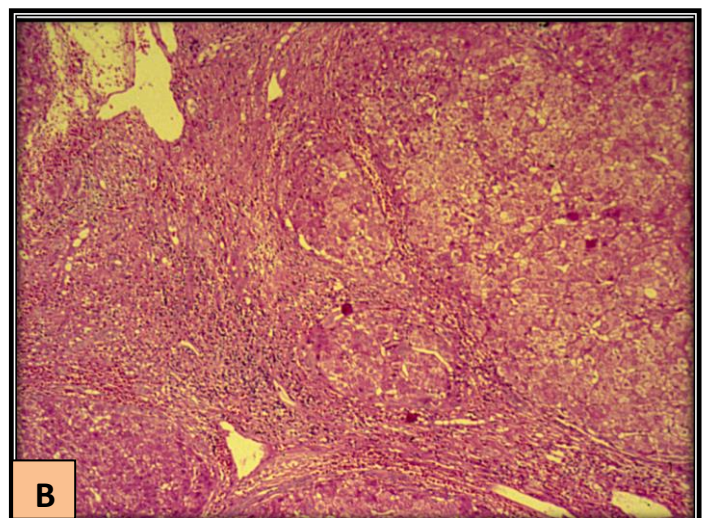
Regeneration of multiple nodules **separated by fibrosis** on the liver.



Histopathological Features:

- (A) - Loss of lobular architecture and **regenerative nodules**.
 - **Proliferation of bile duct**.
 - **Fibrosis and scarring**.
 - Chronic inflammatory cells in fibrous tissue
- (B) - **Regenerative nodules**.
 - **Thin plate of hepatocytes separated by sinusoids with NO pleomorphic hepatocyte** (which is a feature of liver carcinoma)
- (C) **Same features, but the stain used is trichrome stain; to highlight the blue lines which represents the fibrosis.**

(To differentiate it from liver carcinoma which will show collagen instead of fibrosis)

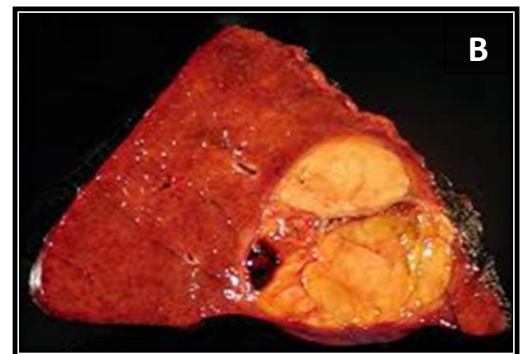
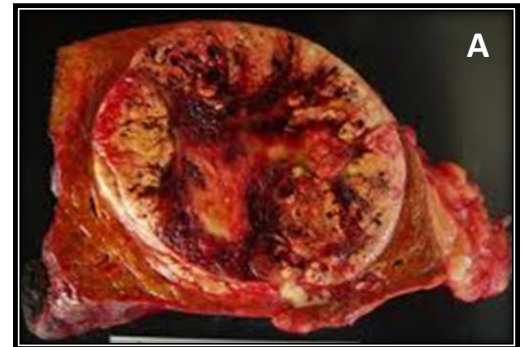


18- Hepatocellular Carcinoma

Gross (Macroscopic) Features:

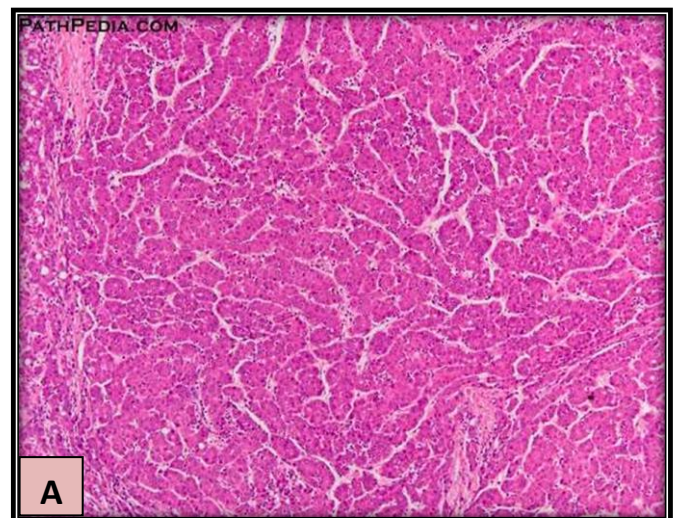
(A) **Well-circumscribed** hemorrhagic and necrotic liver mass.

(B) **Solitary nodule** with areas of hemorrhage and necrosis.

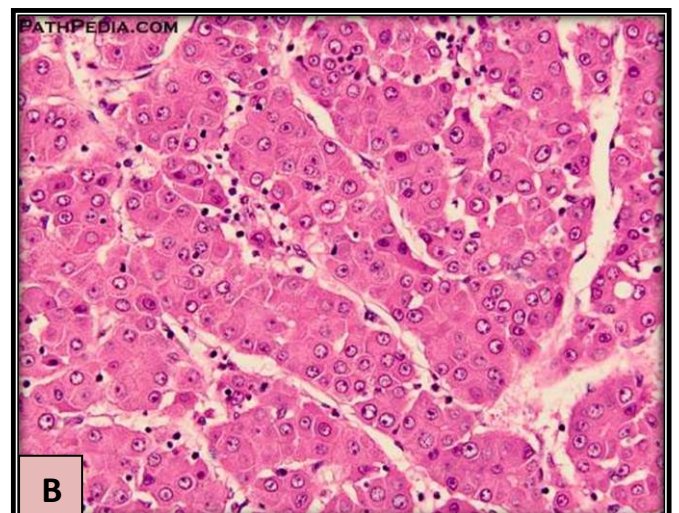


Histopathological Features:

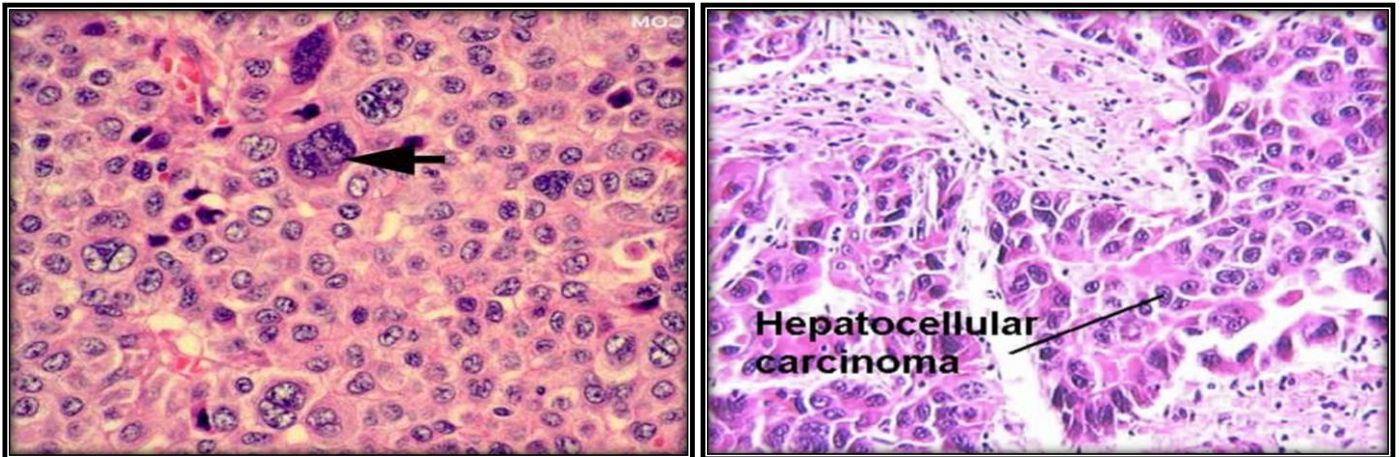
- (A,B) - **Thick hepatocellular plates.**
- **Enlarged cells** with prominent nuclei (seen better in B).
 - **Absence of portal tracts.**
 - **Destroyed hepatic architecture.**



Low Power



High Power



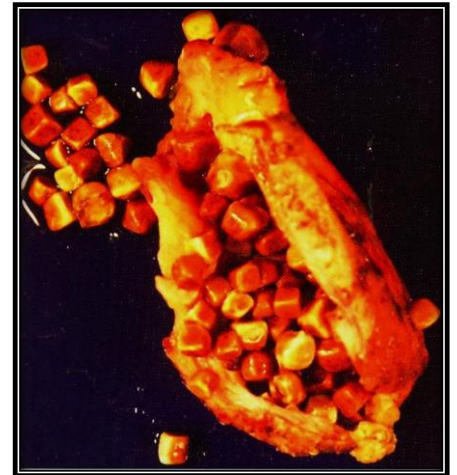
IN HCC:

- * Elevated Alpha-fetoprotein.
- * Patients with Hepatitis B & C have a risk to develop hepatic carcinoma "serology for hepatitis B&C".

19- Chronic Cholecystitis with stones

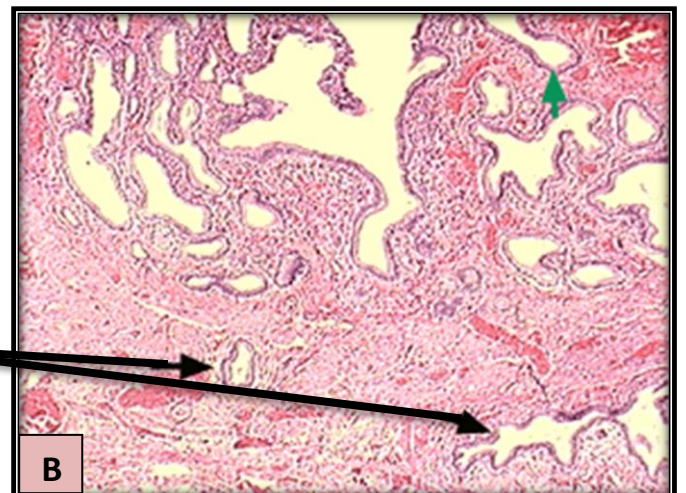
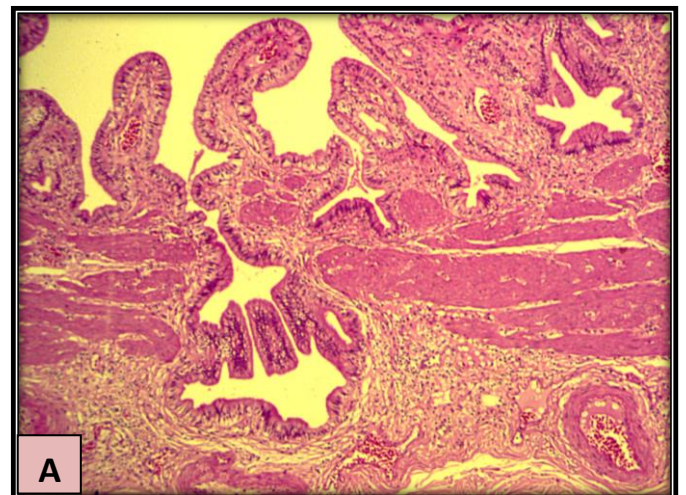
Gross (Macroscopic) Features:

- Numerous yellowish and green stones within the gall bladder.



Histopathological Features:

- (A,B) –Mucosal penetration to muscle coat (Rokitansky- Aschoff sinuses).
- Chronic inflammatory cells.
 - Congested blood vessels.
 - Necrosis



Rokitansky- Aschoff sinuses

20- Acute Pancreatitis

Gross (Macroscopic) Features:

(A)

- Black areas of hemorrhage.
- “Saponification”: fats with Ca.
- Yellow-white areas of fat necrosis.

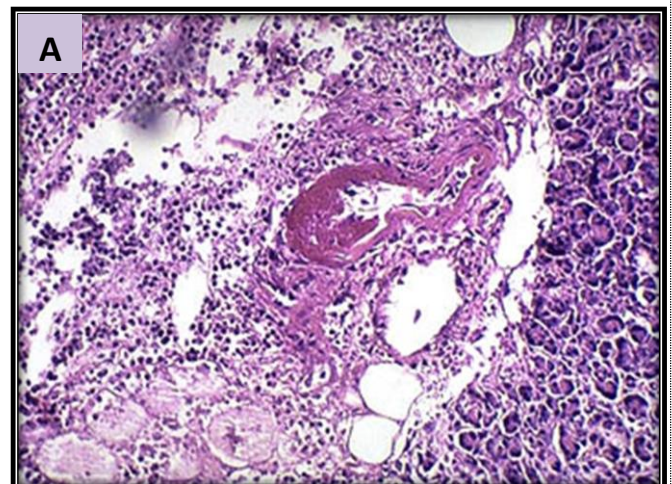


(B) Auto-digestion ”because of the pancreatic enzymes”.

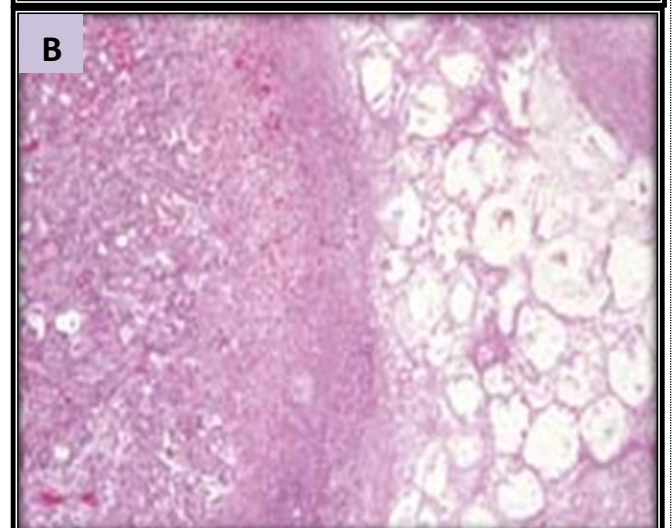


Histopathological Features:

- (A) * Neutrophil cells infiltration
* Fibrinoid necrosis to the artery wall



- (B) * Auto-digestion
* Fat necrosis



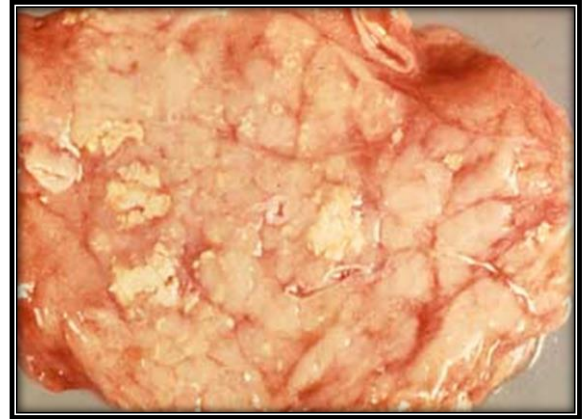
Predisposing factors:

- Alcohol, trauma, Gall stones and drugs.
- Most imp. Lab test is—Amylase.

21- Chronic Pancreatitis

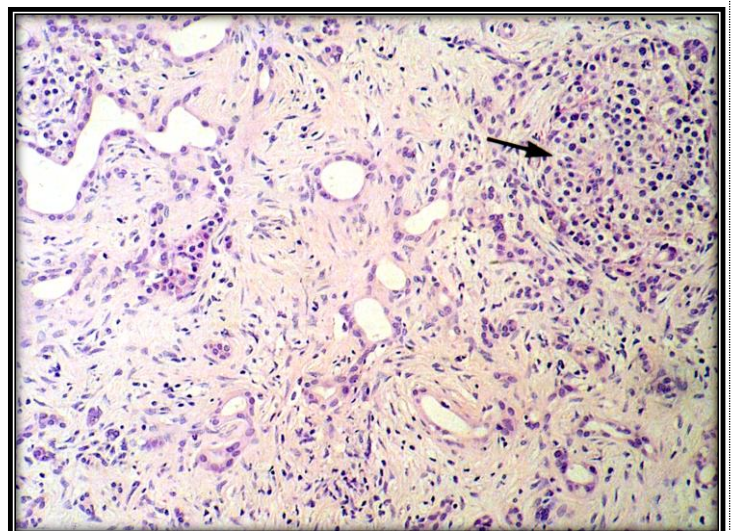
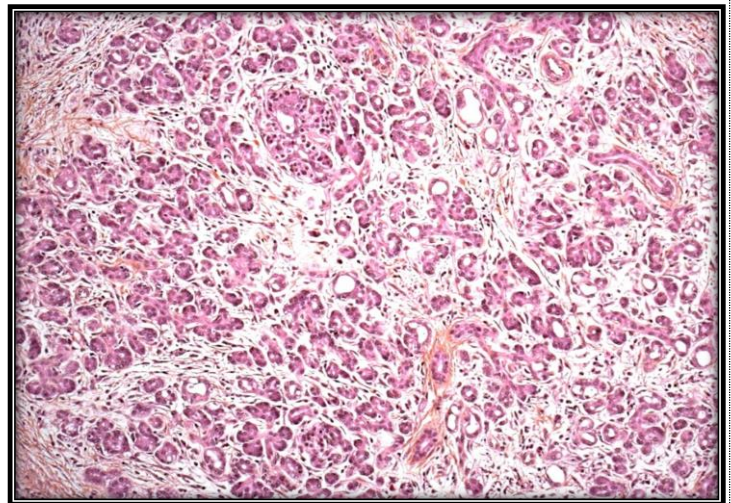
Gross (Macroscopic) Features:

- **Calcification.**
- **Necrosis.**
- **Fibrosis.**



Histopathological Features:

- **Fibrosis**
- **Atrophy of the acini.**
- **Chronic inflammatory cells**
(Black arrow: Lymphocytes & plasma cells)
- **Hyperplastic Islets cells.**

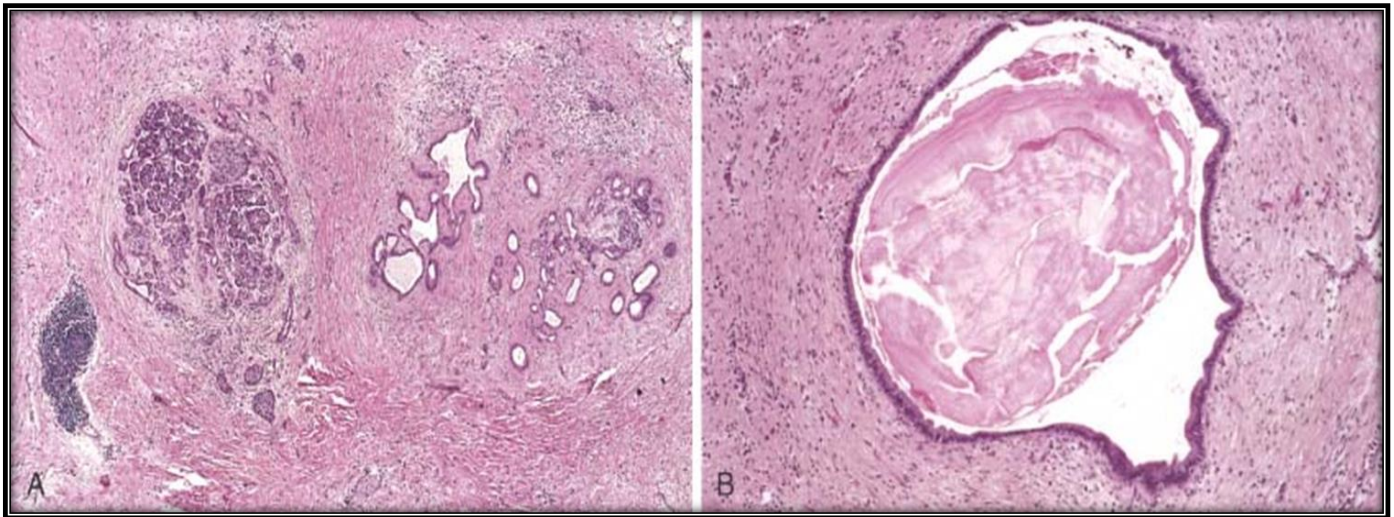


Common causes:

Alcoholism, cystic fibrosis or Idiopathic.

Complications:

Steatorrhea and pancreatic pseudocyst.



↑ Chronic pancreatitis ↓

(A) Extensive **fibrosis** and **atrophy** has left only residual islets (left) and ducts (right), with a sprinkling of **chronic inflammatory cells** and acinar tissue.

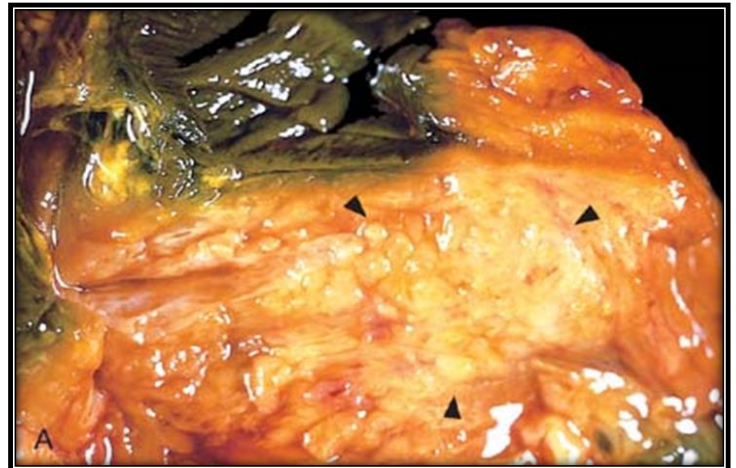
(B) A higher-power view demonstrating dilated ducts with inspissated eosinophilic ductal concretions in a patient with alcoholic chronic pancreatitis.

N.B: Make sure you go through the pancreatitis lecture to cover all the theory questions regarding these two cases!!

22- Pancreatic adenocarcinoma

Gross (Macroscopic) Features:

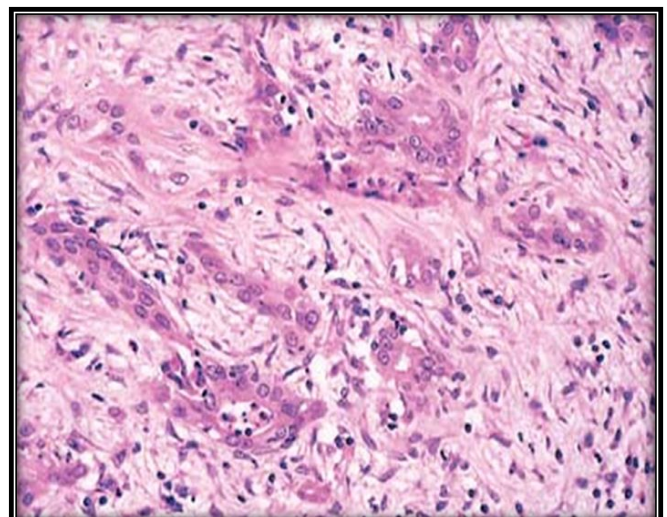
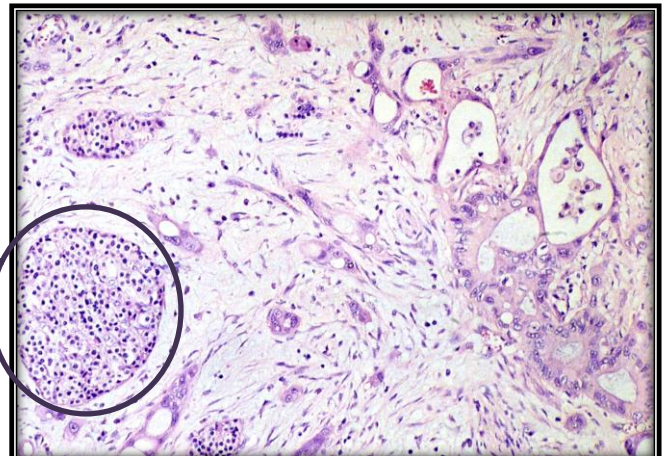
-Irregular mass arises from the pancreas, with areas of necrosis & fibrosis



Histopathological Features:

1- Invasive malignant glands within the desmoplastic stroma.

2- Malignant cells within the glands are pleomorphic, with prominent nuclei and mitosis.



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 عليّ عند حاجتي إليه انك على كل شيء قدير

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