Biliary Tumors

Cholangiocarcinoma and Cancer of the Gall Bladder

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Cholangiocarcinoma

- A slow growing malignancy of the biliary tract which tend to infiltrate locally and metastasize late.
- Gall Bladder cancer = 6,900/yr
- Bile duct cancer = 3,000/yr
- Hepatocellular Ca = 15,000/yr

Cholangiocarcinoma

- 90% are extra-hepatic
- M = F
- 60’s and 70’s
- Highest incidence in Japan, Israel, and Native Americans
- Increased 3 fold in the last 30yrs in the USA
- M/F=3/2

Cholangiocarcinoma
Etiology

Ulcerative Colitis	Thorotrast Exposure
Sclerosing Cholangitis	Typhoid Carrier
Choledochal Cysts	Adult Polycystic Kidney Disease
Hepatolithiasis	
Liver Flukes	
Papillomatosis of Bile Ducts	

Cholangiocarcinoma

Extra-hepatic: Distribution

- Right or left hepatic duct = 10%
- Bifurcation = 20%
- Proximal CBD = 30%
- Distal CBD = 30%

Cholangiocarcinoma
Diagnosis and Initial Workup

- Jaundice
- Wt loss, anorexia, abdominal pain, fever
- US then CT (CTA?) Followed by ERCP, PTC or MRCP
- CEA and CA 19-9 can be elevated

Intra and Extra-hepatic Cholangiocarcinoma

Cholangiocarcinoma
Intra-hepatic Disease

- Suspicious mass on CT. Quadruple phase CT with 0.5 cm cuts through the liver and portal hepatitis. Consider CTA reconstruction.
- Bx
- If adenoncarcinoma: look for primary with a chest CT and upper/lower endoscopy.
- Colon, pancreas, and stomach are common primary sites.

Cholangiocarcinoma

Intra-hepatic Disease-Surgery/Ablation

- Extent of surgical therapy is determined by the location, hepatic function, and underlying cirrhosis.
- Anatomic resections have lowest recurrence rates. However nonanatomic resection increases potential surgical candidates and improves survival.
- Hepatic devascularization prior to resection is preferred
- Ablative therapy gives good local control.

Child's Classification

Class	Alb	Bili	Ascites	Malnutri-tion	Encephal-opathy	Surgical Mortality
A	>3.5	<2.0	0	0	0	5%
B	3-3.5	2-3	Controlled	Mild	Minimal	10-20%
C	<3	>3	Poor Control	Significant	Recurrent / Persistent	30-40%

Cholangiocarcinoma

Intra-hepatic Disease: Extent of Resection

- No Cirrhosis: 60% of liver
- Mild Cirrhosis with normal LFT's: one lobe, maybe
- Moderate Cirrhosis with mild LFT abnormality (Child's B): Wedge resection/RFA
- Child's C: no surgical therapy

Cholangiocarcinoma
Intra-hepatic Disease

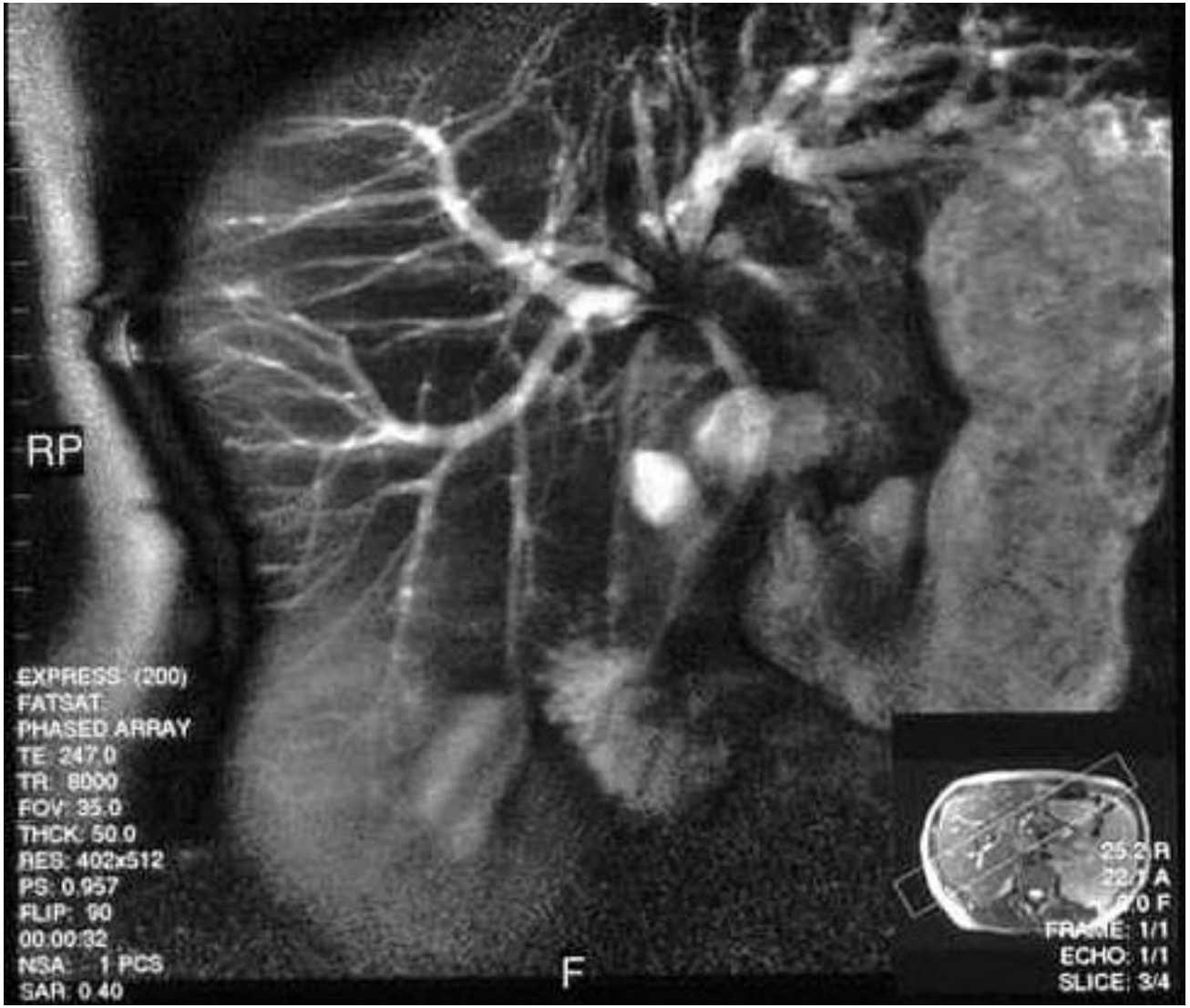
- Locally aggressive tumor: 65% present with satellite nodules, perineural invasion
- For residual disease use Radiation therapy and 5-FU based therapy or gemcitabine
- Re-image all every 6 mo for 2 yr. Start workup over for a new mass.

Intra-hepatic Cholangiocarcinoma

Representative Case

- 60 yo woman in MVA, US of liver reveals a mass w/o biliary obst
- Quadruple phase CT reveals a single lesion with characteristics of malignancy, 0.5 cm cuts on a multihead, helical scanner
- CT/US guided Bx yields adenocarcinoma
- CT chest, Upper and lower endoscopy are negative
- Resect or RFA if possible, if not chemotherapy.
- 30-40% chance of cure with surgery. Life expectancy with chemo is 12 to 18 m, without chemo it is 6 to 8 m.

MRCP of Extra-hepatic Cholangiocarcinoma at the Bifurcation



Klatskin tumor

Cholangiocarcinoma
Extra-hepatic

- US revels bile duct dilatation
- Quad phase CT
- Percutaneous Cholangiogram with Internal Stent and Brush Biopsy
- ERCP with Stent and Brush Biopsy
- MRCP/MRI

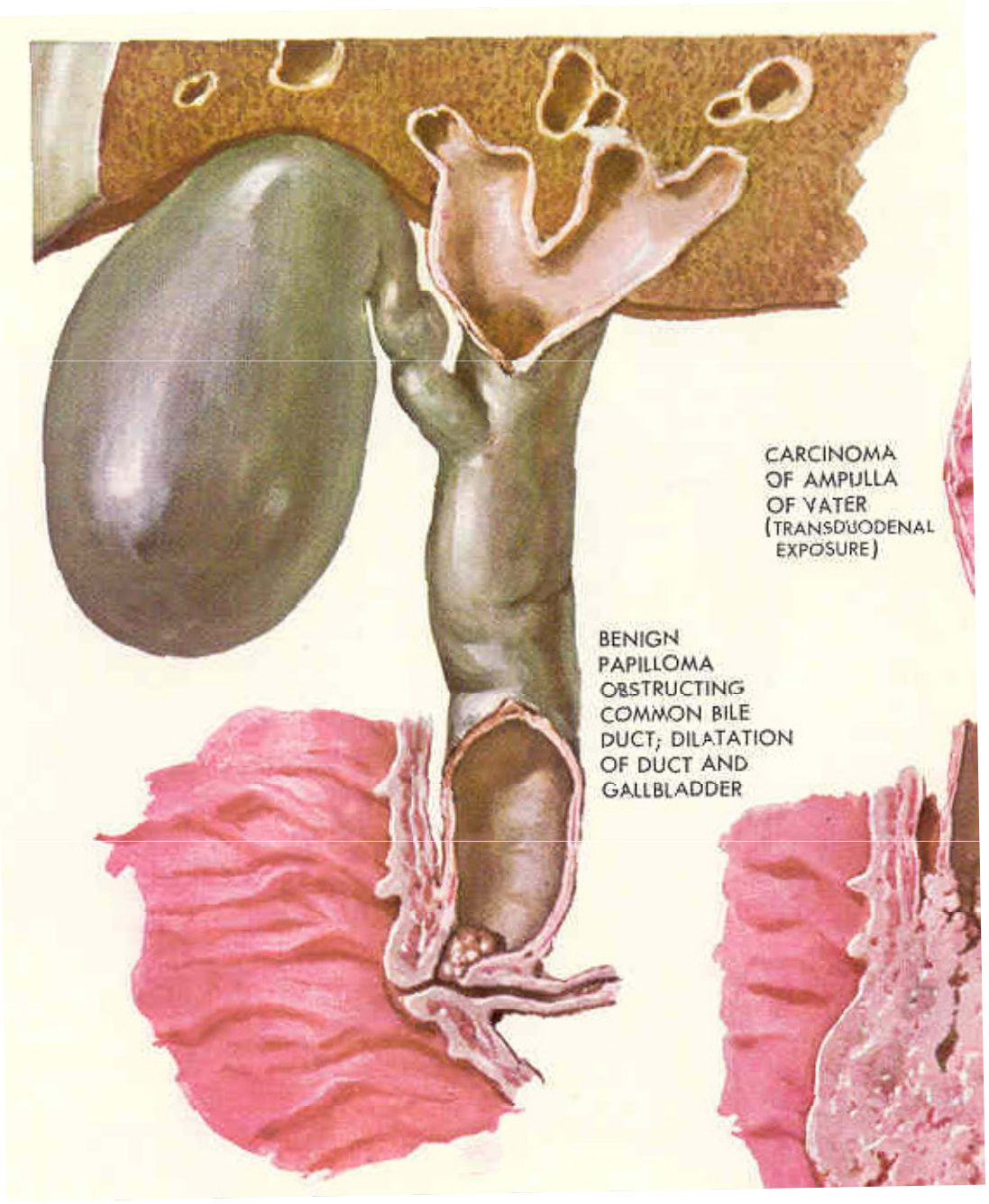
Cholangiocarcinoma
Pathology

- Almost all are adenocarcinoma
- Papillary, nodular, and sclerosing
- Best prognosis is with papillary distal tumors

Cholangiocarcinoma

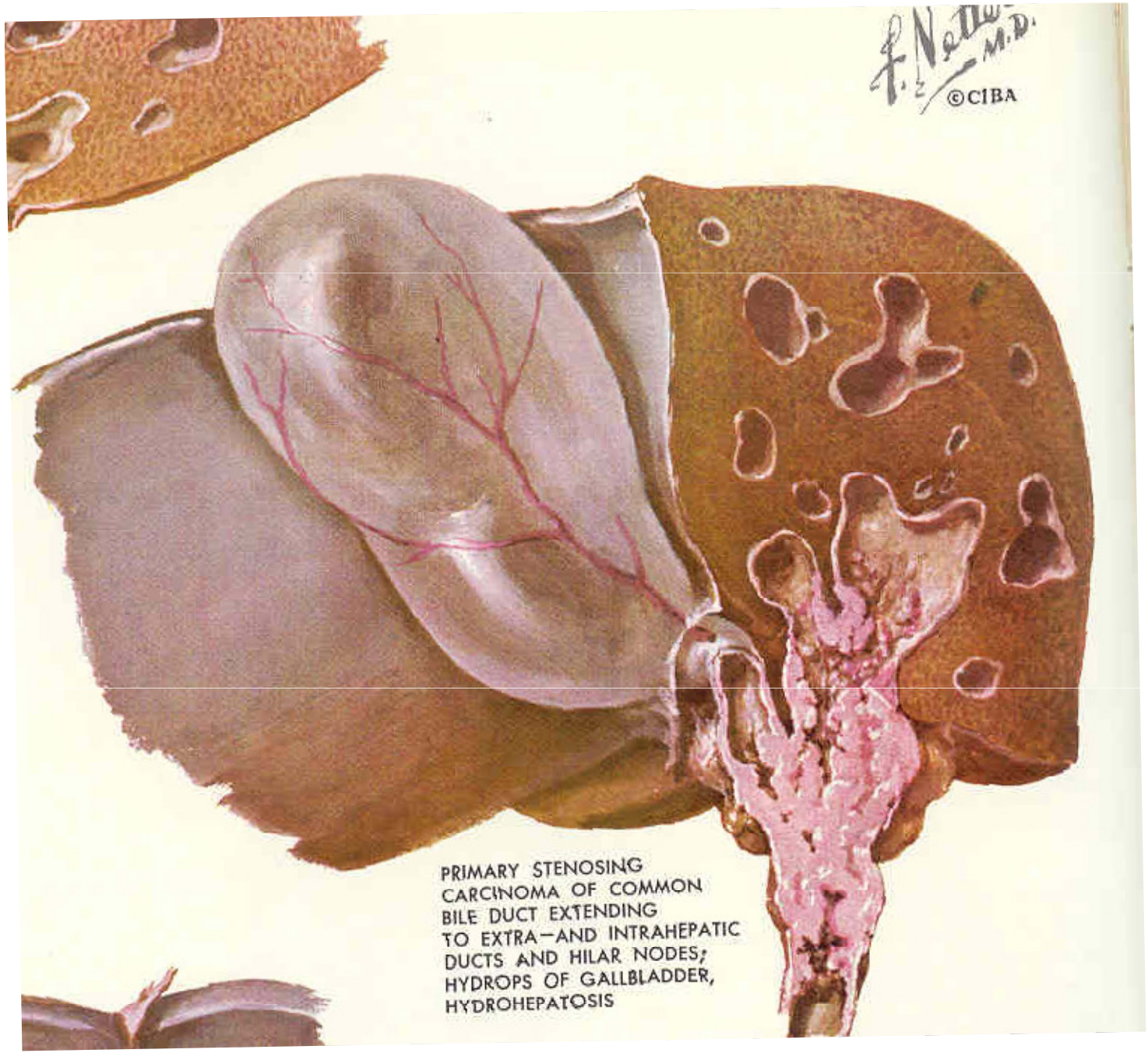
Extra-hepatic Disease: Surgical Therapy

- CT +/- cholangiogram
- If proximal, resect back to secondary bifurcation or one lobe and primary bifurcation, take nodes and caudate lobe. Stent anastamoses.
- If Mid CBD, excise back to negative margins and create Roux en Y hepaticojejunostomy.
- For distal disease: Whipple


CARCINOMA
OF AMPULLA
OF VATER
(TRANSDUODENAL
EXPOSURE)
BENIGN
PAPILLOMA
OBSTRUCTING
COMMON BILE
DUCT; DILATATION
OF DUCT AND
GALLBLADDER

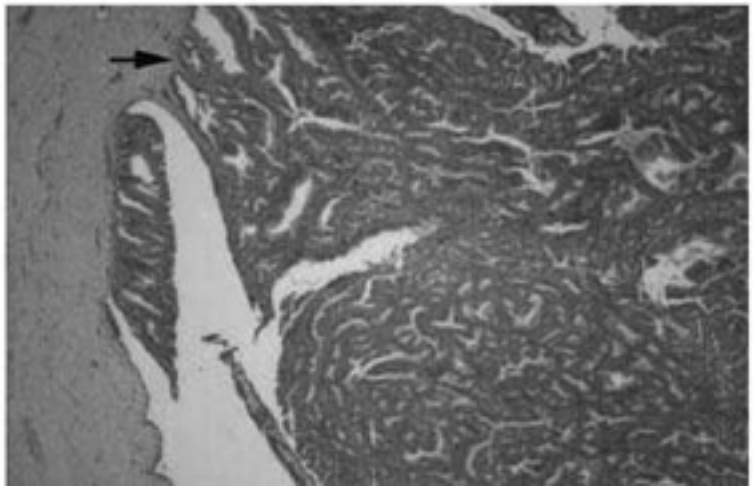
ERCP: Distal CBD Cancer

Ca of CBD Bifurcation



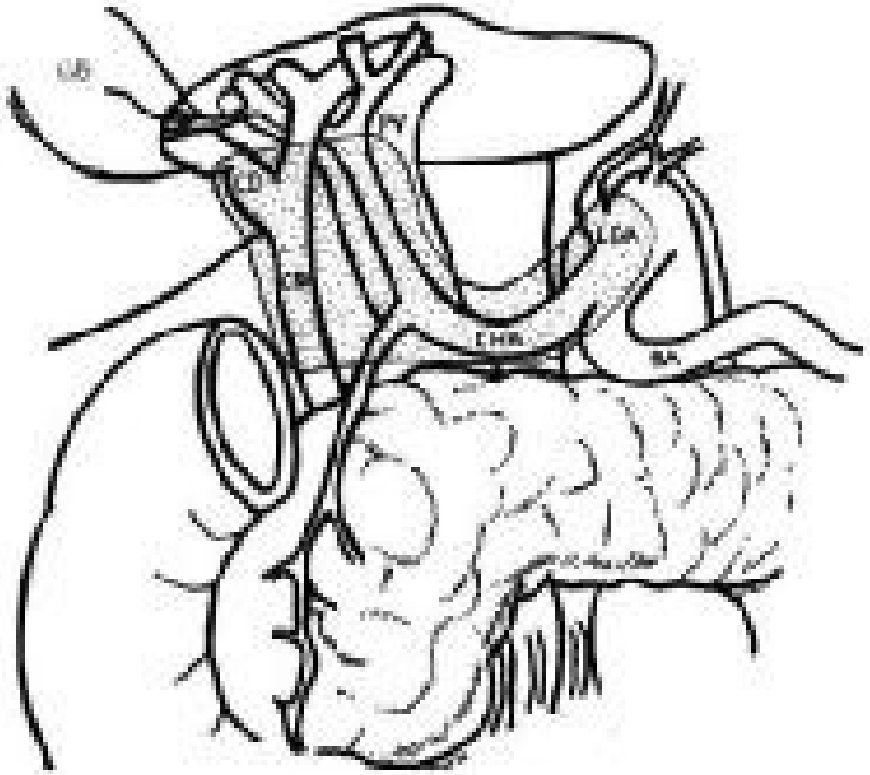
A

B

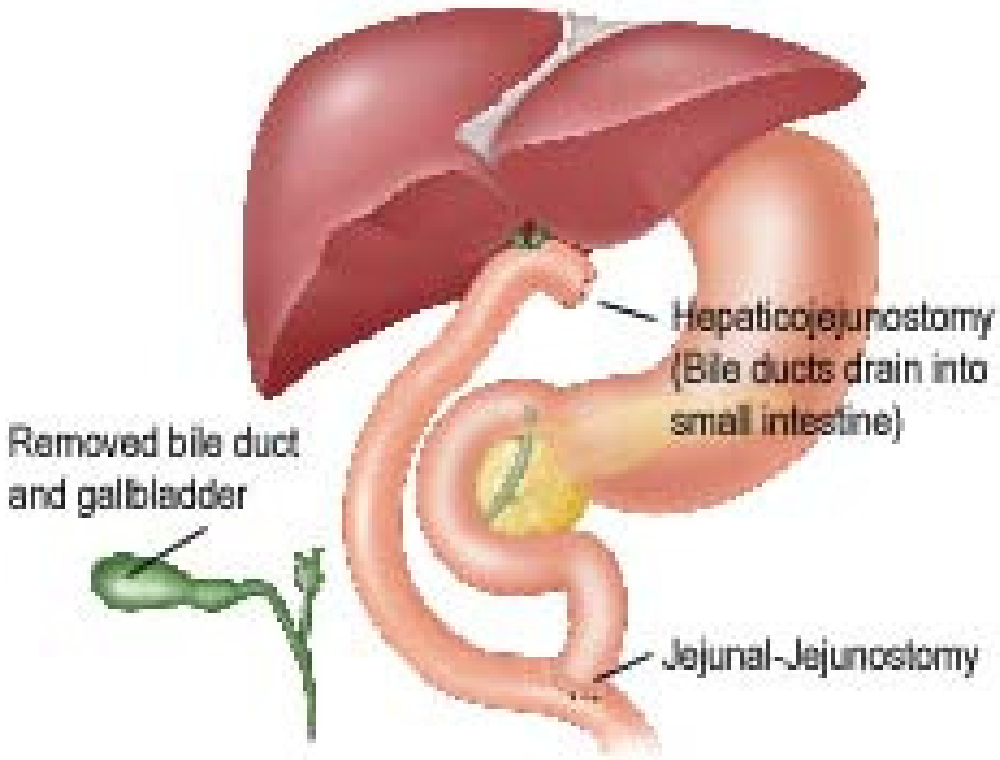


C

Node Dissection in Bile Duct Excision



Roux-en-Y Hepaticojejunostomy



Roux-en-Y Hepaticojejunostomy Procedure performed for injuries and cancer of the bile duct.

Cholangiocarcinoma

Extra-hepatic Disease: Positive Margins or Unresectable

- Stent and Chemo/Radiation Therapy-Bracy Therapy
- 5-FU based or Gemcitabine or Clinical Trial
- Survival with surgery and chemo/radiation is 24 to 36 m.
- With chemo/radiation alone survival is 12 to 18 m.

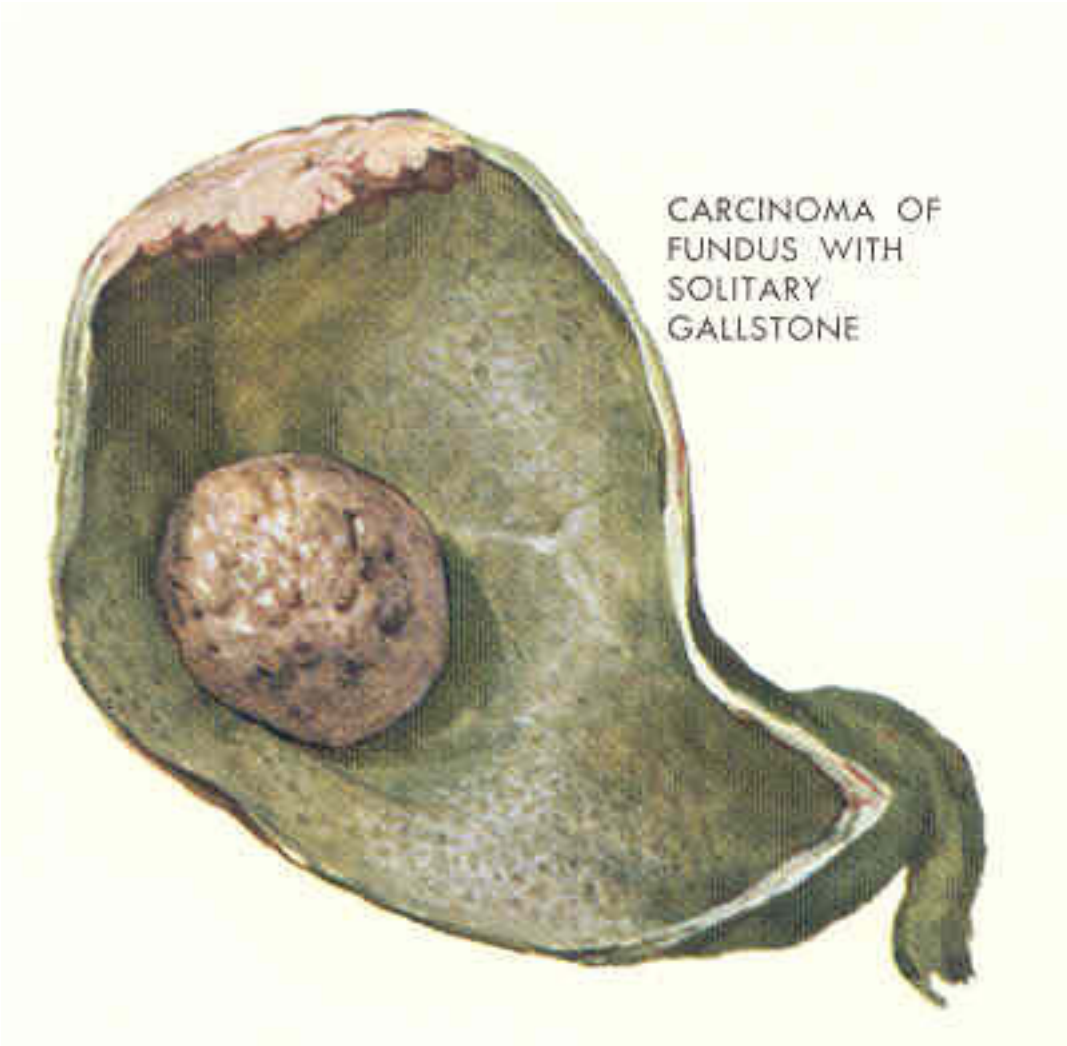
Cholangiocarcinoma

Extra-hepatic Disease: Unstentable

- Bypass if possible
- If not use proximal decompression and feeding jejunostomy
- Chemotherapy/Radiation Therapy/Brachy therapy as tolerated or clinical trial.

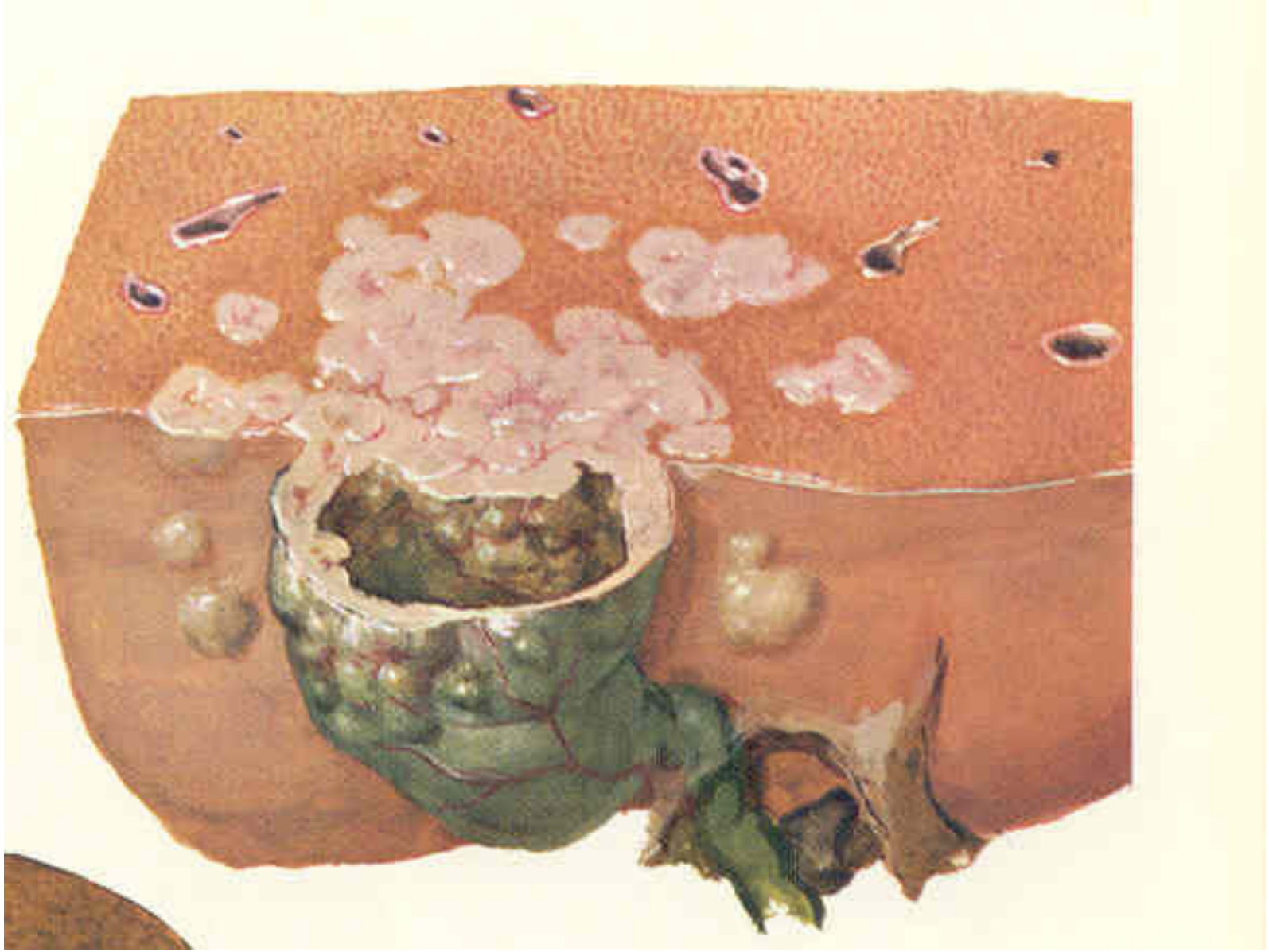
Cholangiocarcinoma
Prognosis

- Best Result are with distal CBD tumors completely excised. Cure = 40%
- Incomplete resection plus radiation gives a median survival of 30 m.
- Stenting plus chemo/radiation gives a median survival of 17 to 27m
- Those stented alone live only a few months



CARCINOMA OF FUNDUS WITH SOLITARY GALLSTONE

Cancer of the Gall Bladder



Gall Bladder Cancer

- 5,000 to 7,000 per yr. in the US
- 6th decade
- 1:3, Male:Female
- Highest prevalence in Israel, Mexico, Chile, Japan, and Native American women.
- Risk Factors: Gallstones, porcelain gallbladder, polyps, chronic typhoid and some drugs

Gall Bladder Cancer

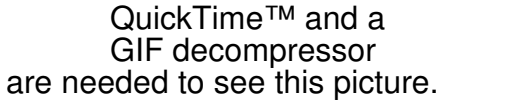
Presentation (1)

- Discovered on path after a routine cholecystectomy. (T-1a/b - invades muscularis)
- CT/Chest and Abdomen, Quad phase CT of liver
- If negative for metastasis: Radical cholecystectomy with nodal dissection, central hepatectomy, w or w/o bile duct excision. Excise port sites. Followed by Chemo/Radiation
- 5 yr. survival = 60%

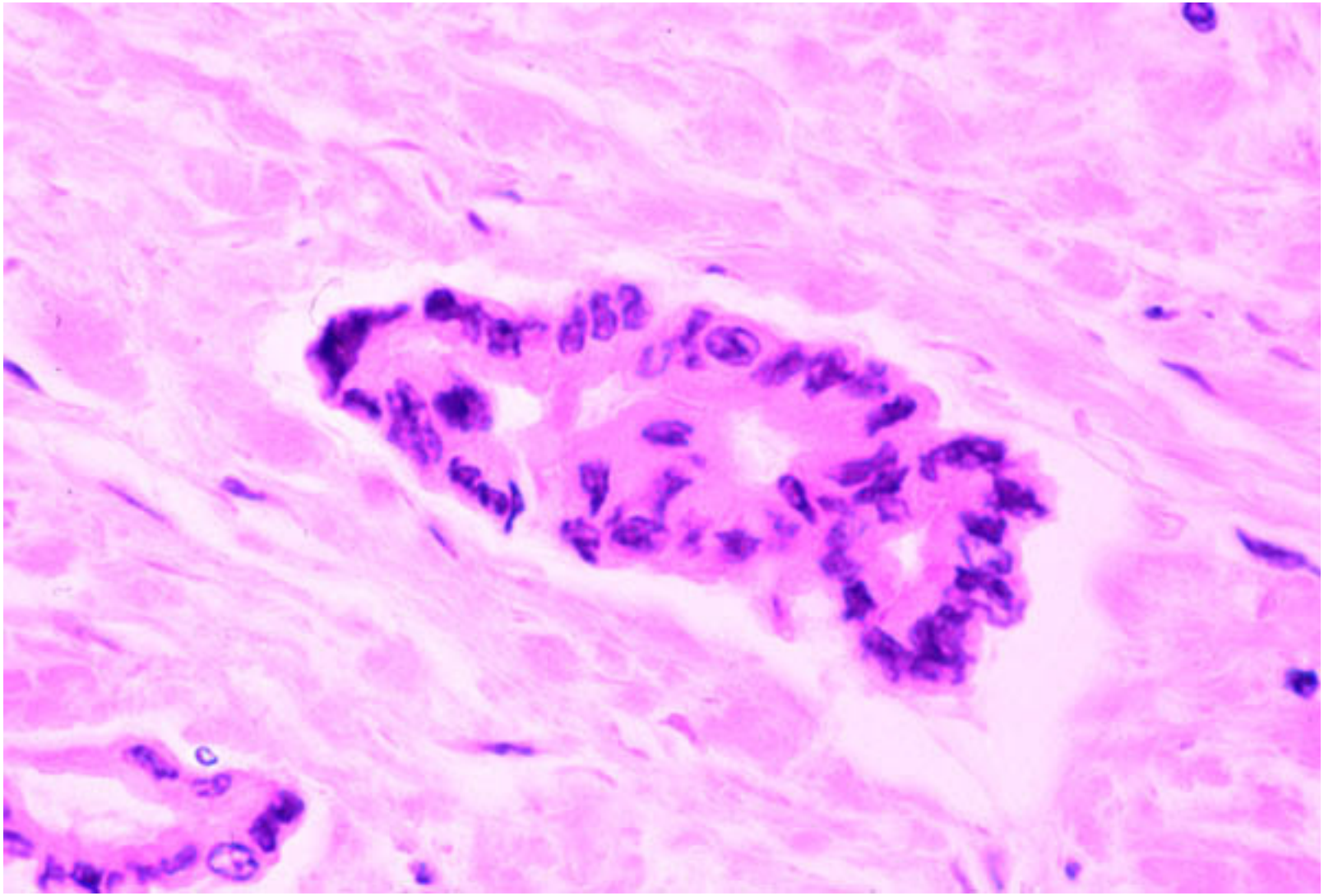
Gall Bladder Cancer
Presentation 2

- RUQ pain, jaundice, wt loss: CT
- Biopsy yields adenoca c/w GB primary
- Biliary Decompression
- Chemo/Radiation using 5FU or gemcitabine.
- Capecitabine may also be effective
- Median survival with chemo/rad is 9m.

PET Scan and Cholangiocarcinoma



Sclerosing type of Cholangiocarcinoma



Cytological Brushing of Cholangiocarcinoma