

Case Presentation and Discussion on a Patient with Right Upper Quadrant Mass

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General Data:

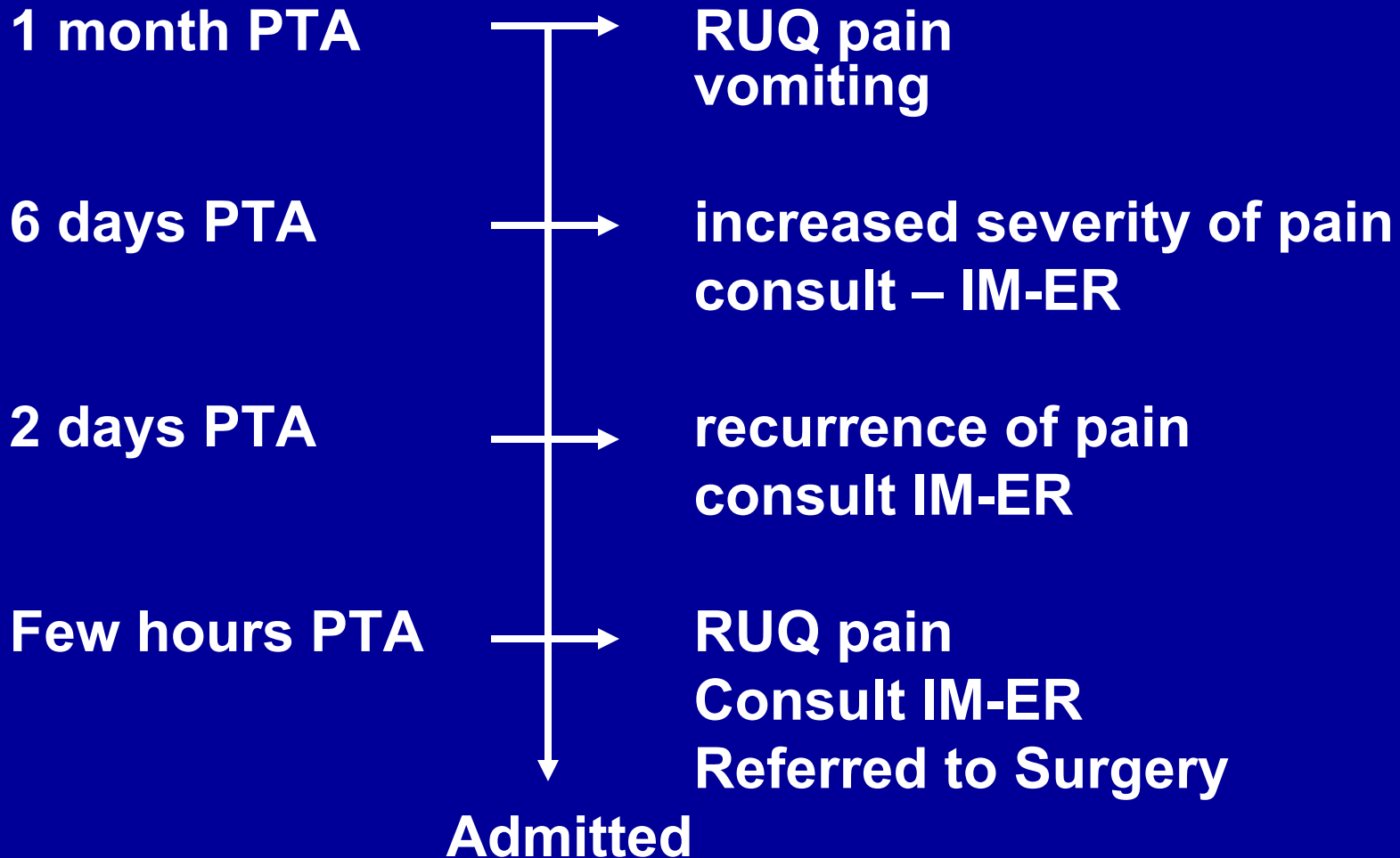
20 year-old

Male

Chief Complaint:

“abdominal pain”

History of the Present Illness:



IM-ER Diagnosis: Hepatic Abscess, Amebic, Right Hepatic Lobe

- Initial US Findings:
 - RUQ Mass, Hepatic in origin, Right Hepatic Lobe, Cystic with septations
- Plain film of the Abdomen
 - Hepatomegaly
 - Ileus
 - Fecal Retention

- Past medical history:
unremarkable
- Personal and social history
unremarkable
- Family medical history
unremarkable
- Review of System
weight loss

Physical Examination: Upon referral to Surgery

- **Conscious, coherent, oriented**
- **BP = 130/80mmHg CR = 81beats/min**
RR = 20 cycles/min Temp = 36.9°C
- **Pink palpebral conjunctivae, anicteric sclerae**
- **Supple neck, no cervical lymphadenopathy**

Physical Examination:

- **Symmetrical Chest Expansion, no retractions, Clear breath sounds**
- **Adynamic precordium, no murmur**
- **Extremities: no edema; full and equal pulses, no cyanosis**

Physical Examination:

- Slightly Globular,
Normoactive
bowel sounds,
soft, RUQ mass
14cm below
subcostal margin
RMCL with
tenderness
dull on percussion



Salient Features

- 20 y/o, Male
- Right Upper Quadrant Pain
- Right Upper Quadrant Mass with tenderness
- Initial US Finding:
 - RUQ Mass, Hepatic in origin, Right Hepatic Lobe, Cystic with septations

Clinical Diagnosis

A.Primary Clinical Diagnosis:

Hepatic Mass, Amebic Abscess, Right Hepatic Lobe

B.Secondary Clinical Diagnosis:

Simple Hepatic Cyst, Right Hepatic Lobe

RUQ Mass

Abdominal Wall

Intra-abdominal

Liver

GB and
Biliary Tree

Pancreas

Intraperitoneal

Retroperitoneal

Kidney

Non-Inflammatory

Inflammatory

Amebic Liver Abscess

Malignant

Benign

Simple Hepatic Cyst

CLINICAL DIAGNOSIS	CERTAINTY	TREATMENT MODALITY
Hepatic Mass, Amebic Abscess, Right Hepatic Lobe	80%	Medical Surgical
Simple Hepatic Cyst, Right Hepatic Lobe	20%	Observation Surgical

Paraclinical Diagnostic Procedures

- Do I need additional paraclinical diagnostic procedure?
 - NO.
 - Follow-up on official ultrasound report

Treatment

Pre-treatment Diagnosis:

Hepatic Mass, Amebic Abscess, Right
Hepatic Lobe

Treatment

- Goal of Treatment:
 - > resolution of liver abscess

Treatment Options

Treatment	Benefit	Risk	Cost	Availability
Medical	90% Success Rate	Adverse Drug reactions	300/day	yes
Surgical	60 – 100% Success rate	Bleeding	1,500 to 5,000	yes

Agreed on Medical Management by Internal Medicine.

Patient was admitted.

Patient was given Metronidazole

Course in the wards:

- **4 days after admission:**
 - No abdominal pain
 - RUQ mass, 10 cm below subcostalmargin
RMCL
 - No tenderness
 - Plan: **Suggested repeat ultrasound**

Ultrasound Report

- The liver is normal in size. The proximal intra-hepatic ducts are slightly dilated. There is a large tubular septated cystic mass measuring about 28.8cm x 10.7 cm just above the portal vein showing a bright echo 2.0cm in size with acoustic shadowing. This fluid filled mass extends to the midabdomen and partially obscured the pancreatic head.



04-10-05



IMPRESSION:

Normal size liver

Contracted Gallbladder

**T/C Choledochal Cyst with stone
formation**

Suggest CT Scan or PTC

Further Imaging Options:

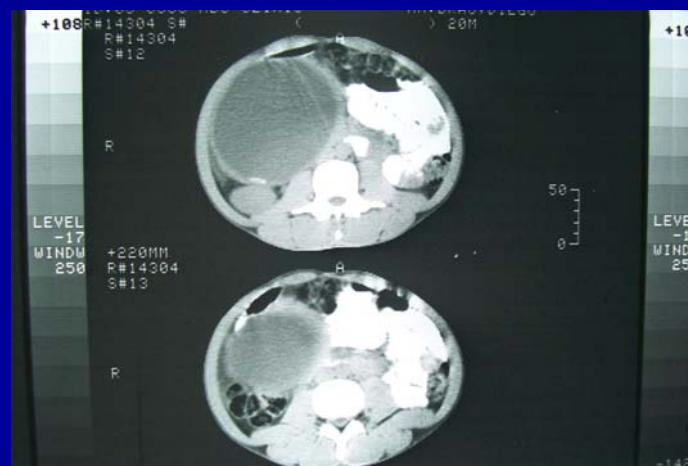
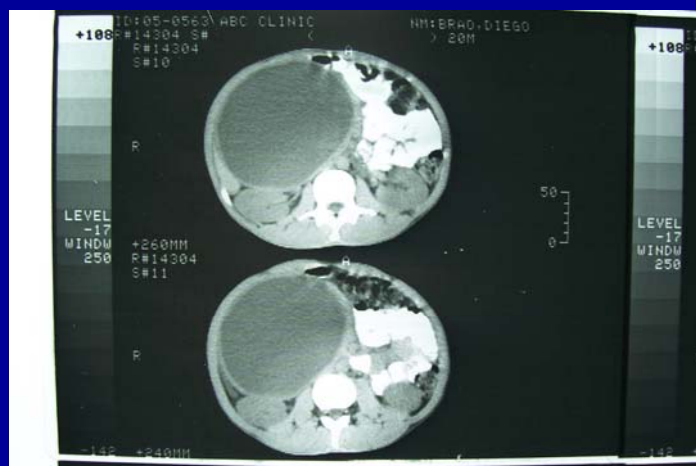
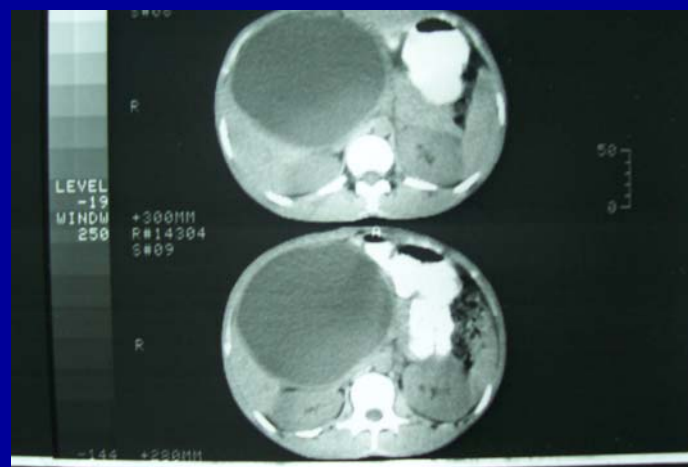
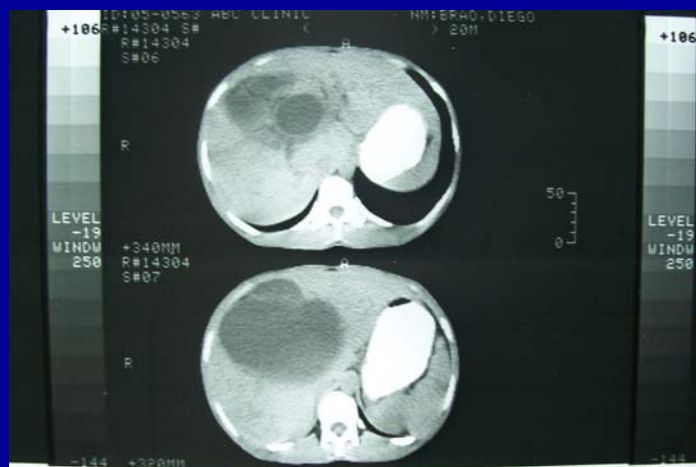
- **Importance:**
 - **Confirmatory**
 - **Plan for future surgical intervention**

Imaging Modalities	Benefit	Risk	Cost	Availability
CT Scan	+++	++	5T	Yes
PTC	+/-	++++	10T	No
MRI	+++	+	10T	Yes

CT Scan Report

- The liver is markedly enlarged with the tip of the right lobe extending below the lower pole of the ipsilateral kidney
- There is fairly he non-enhancing hypodensity occupying the right lobe of the liver measuring 11.8 x 14.1 cm in its widest axial diameter. The border outline is well defined. The central biliary tree is slightly dilated. There is a small and separate hypodensity in the left lobe.

- The spleen and adrenal glands are unremarkable.
- The pancreas is displaced laterally and the size and contour of which are difficult to evaluate.
- Both kidneys are functioning without hydronephrosis.
- The opacified bowels are displaced inferiorly and laterally
- The urinary bladder is fully distended and is unremarkable.



- **IMPRESSION:**
 - **Hepatomegaly with a fairly large, Right Hepatic Cyst**
 - **Dilated central biliary tree**

Referred back to surgery:

Treatment:

Pre-treatment Diagnosis:

Hepatic Cyst

Goal:

Resolution of Mass

Treatment Options

Options	Benefit	Risk	Cost	Availability
US guided Percutaneous Aspiration	High recurrence rate Diagnostic	bleeding	1,500	Yes
Laparotomy Unroofing	Success Rate 90 – 100%	Biliary injury	5,000	yes

Preoperative preparation:

- **Informed consent secured**
- **Psychosocial support**
- **Optimize patient's health**
- **Screen for any condition that will interfere with treatment**
- **Prepare materials**
- **Patient supine**
- **Aseptic and antiseptic technique RUQ AREA**
- **Local anesthesia injected**
- **French 16 needle inserted Guided ultrasonically**



US Guided Percutaneous Aspiration

Findings:

1.2 liters of bile evacuated.

Cystogram suggested:

Cystogram



Diagnosis:

Choledochal Cyst

Goal:

Resolution of Cyst

Restore Hepatobiliary continuity

Avoid complications

Treatment Options

Options	Benefit	Risk	Cost	Availability
Cyst Drainage (Cyst-enterostomy)	% Revision: 22 – 30% Mortality: 8 – 12% Morbidity: 10 – 50%	Leak	7,000	Yes
Cyst Excision (Roux-y Hepaticojejunotomy)	% Revision: 0 – 1% Mortality: 2– 7% Morbidity: 2 – 8%	Injury to surrounding structures	7,000	Yes

Preoperative preparation:

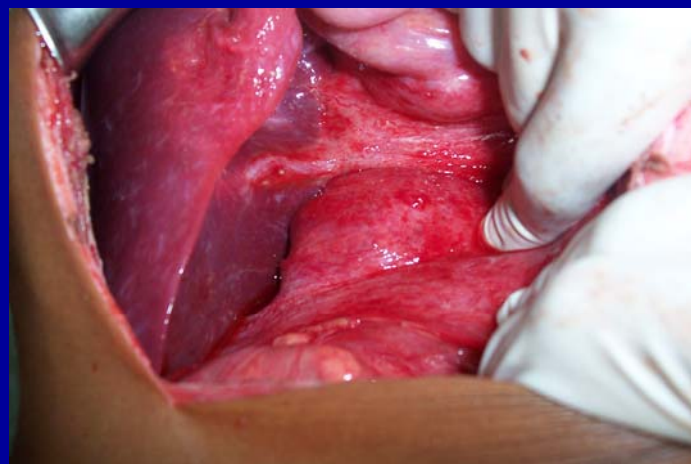
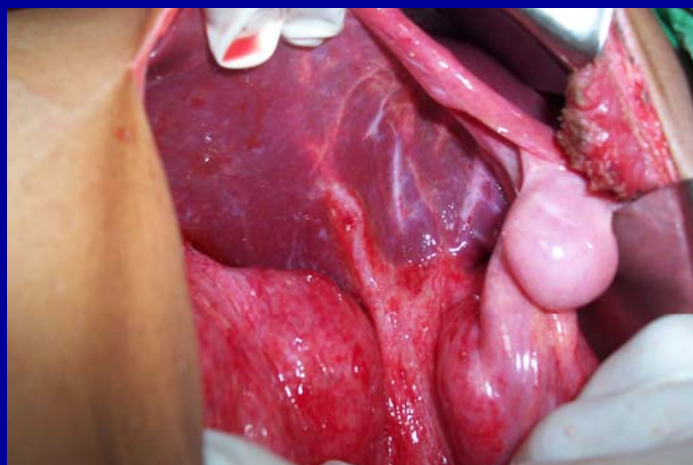
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Operative Technique

- Position: patient supine under GA
- Asepsis and antisepsis technique
- Incision: Right Subcostal oblique incision 2 fingerbreadths from subcostal margin

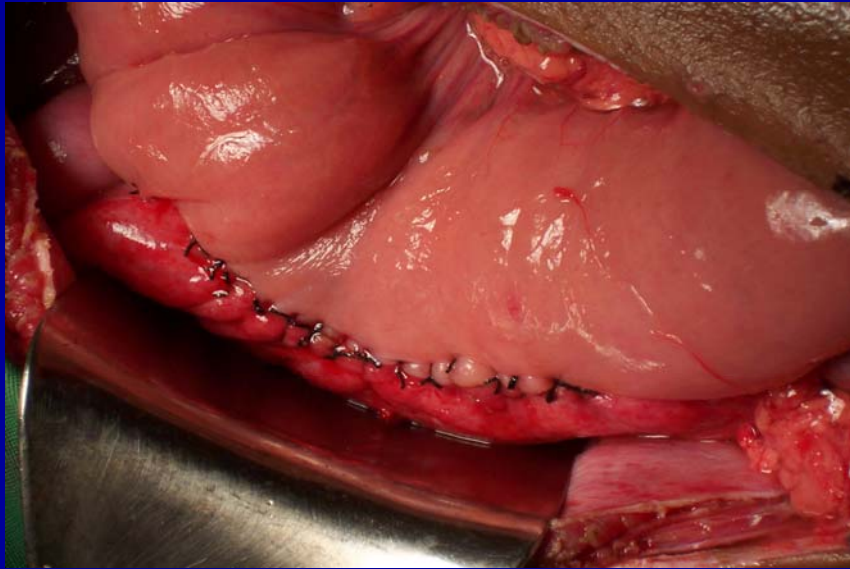
Intra-operative Findings Noted:

- Upon opening through right subcostal oblique incision noted massive dilatation of the whole segment of extrahepatic duct containing 750 cc of bile. This was markedly adherent to the portal vein, pancreas, and retroperitoneal structures.



Operative Technique

- Decompression done
- Cyst mobilized but deemed unresectable
- Jejunum mobilized for internal drainage
- Jejunum transected 40cm from LOT
- End of Distal portion closed and anastomosed side to side to the cyst wall after partial cystectomy
- Proximal end of jejunum anastomosed end to side to Distal jejunum 40cm from choledochojejunostomy



- Proximal end of jejunum anastomosed end to side to Distal jejunum 40cm from choledochojejunostomy
- Hemostasis
- NSS wash
- Correct sponge, instrument, needle count
- Penrose Drain placed on subhepatic area
- 2 layer closure of fascial layers
- Skin closed interruptedly

Operative Procedure

- Partial Cystectomy; Internal Drainage Cyst-jejunostomy (Roux-Y)

Post operative Diagnosis

Choledochal Cyst

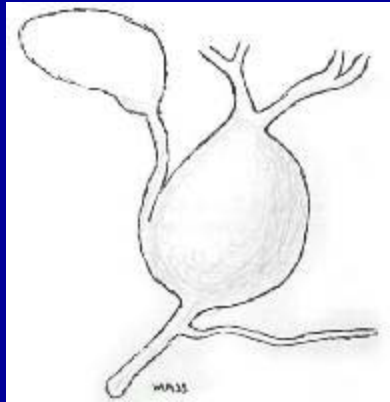
Type Ia

Discussion:

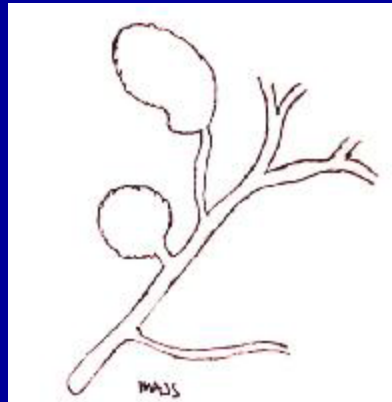
What is Choledochal Cyst?

- congenital anomalies of the bile ducts
- cystic dilatations of the extrahepatic biliary tree, intrahepatic biliary radicles, or both.

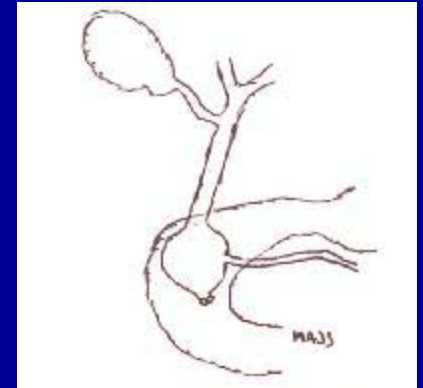
Classification:



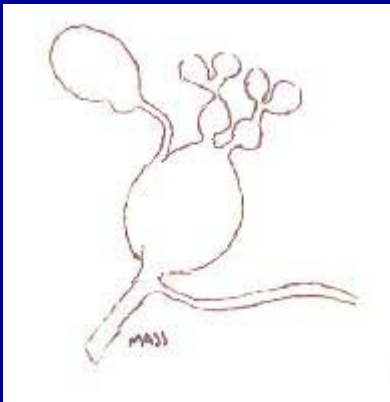
Type I



Type II



Type III



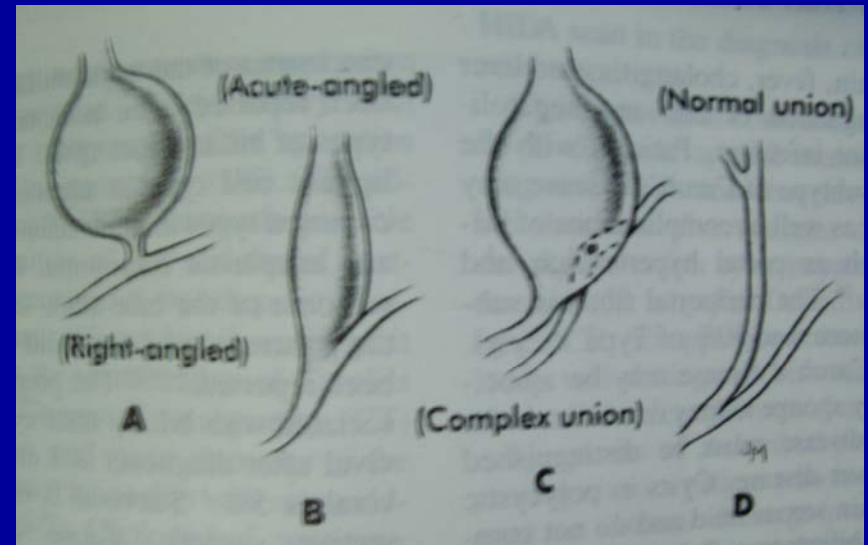
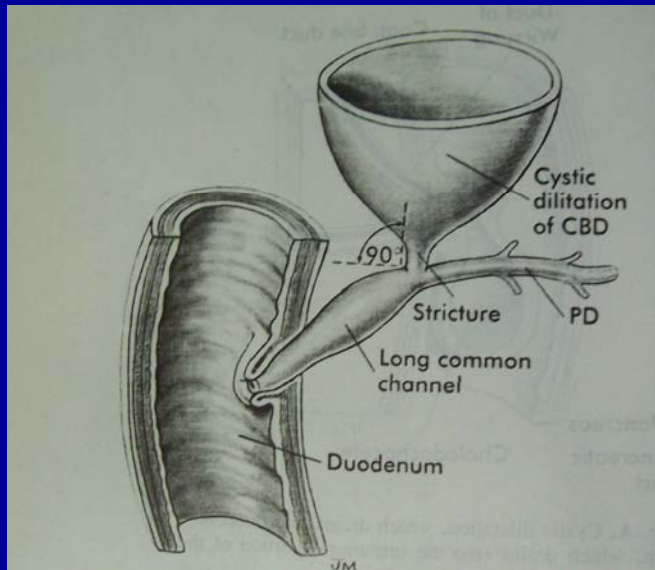
Type IV



Type V

Pathophysiology:

- multifactorial
- majority have APBJ more than 90% - Miyano and Yamataka
 - pancreatic duct enters the common bile duct 1 cm or more proximal to where the common bile duct reaches the ampulla of Vater.
- APBJ allows pancreatic secretions and enzymes to reflux into the common bile duct.
 - alkaline conditions found in the common bile duct
 - pancreatic proenzymes become activated.
 - results in inflammation and weakening of the bile duct wall
- congenital standpoint,
 - defects in epithelialization and recanalization of the developing bile ducts during organogenesis
 - congenital weakness of the duct wall have also been implicated.



Clinical presentation:

- Classic clinical triad - present in only 10-20%
 - abdominal pain (51 to 55%)
 - Jaundice (45 – 46%)
 - palpable right upper quadrant abdominal mass (37 – 58%)

Cyst-Associated Malignancy

- 2.5% to 28%
 - 10.8% incidence of cholangiocarcinoma with non-cyst excision or non-operated congenital choledochal cyst
- Cholangiocarcinoma
 - adenocarcinoma - most common malignant cell type

– Other less common types

- Adenosquamous
- Squamous
- Anaplastic

– Prognosis

- Poor
- Mean survival after diagnosis is 8 months

References:

- **Alonso-Lej F, Rever WB, Pessagno DJ: Congenital choledochal cyst, with a report of 2, and an analysis of 94, cases. Int Abstr Surg 1959; 108(1): 1-30**
- **Todani T, Watanabe Y, Narusue M, et al: Congenital bile duct cysts: Classification, operative procedures, and review of thirty-seven cases including cancer arising from choledochal cyst. Am J Surg 1977; 134(2): 263-9**
- **Zheng LX, Jia HB, Wu DQ, et.al. Experience of congenital choledochal cyst in adults:treatment, surgical procedures and clinical outcome in the Second Affiliated Hospital of Harbin Medical University. J Korean Med Sci. 2004;19(6):842-7**
- **Cheng SP, Yang TL, Jeng KS, Liu CL, Lee JJ, Liu TP. Choledochal cyst in adults: aetiological considerations to intrahepatic involvement. ANZ J Surg. 2004 ;74(11):964-7**

References:

- Yamataka A, Ohshiro K, Okada Y, et al: Complications after cyst excision with hepaticoenterostomy for choledochal cysts and their surgical management in children versus adults. J Pediatr Surg 1997; 32(7): 1097-102
- de Groen PC, Gores GJ, LaRusso NF: Biliary tract cancers. N Engl J Med 1999 28; 341(18): 1368-78

MCQ

Direction: Choose the best answer.

1. What is the most common malignancy in the biliary duct system?
 - A. Squamous
 - B. Anaplastic
 - C. Perihilar Adenocarcinoma
 - D. Intrahepatic Adenocarcinoma
 - E. Botryoid sarcoma

MCQ

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2. Following factor/s is/are associated with higher incidence of choledochal cyst?

- A. Japanese
- B. Male
- C. Obese
- D. American
- E. Elderly

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A. Japanese

B. Male

C. Obese

D. American

E. Elderly

MCR.

Direction: Write

“A” if 1, 2, and 3 are valid statements.

“B” if only 1 and 3 are valid statements.

“C” if only 2 and 4 are valid statements.

“D” if only 4 is a valid statement.

“E” if all are valid statements.

3. What type as described by Todani is not included in the Alonso-Lej Classification?

1. Type Ia
2. Type II
3. Type III
4. Type IV

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3. The following factors are associated with higher incidence of choledochal cyst?

1. Race - Asian ancestry
2. Age – less than 10 year old
3. Sex – Female
4. Nutritional Status - Obese

4. Correct statement for Percutaneous Transhepatic Cholangiography includes the following:

1. Usually has complication of significant hemobilia that requires immediate intervention
2. preferred when initial US shows dilated intrahepatic ducts without extrahepatic duct dilatation
3. preferred when distal common bile duct obstruction is suspected
4. requires positioning of a guide wire in an intrahepatic duct

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5. Babbitt's concept of concerning the cause of choledochal cyst is based on the demonstration of APBDU. What type/s of choledochal cyst is/are not associated with this concept?

1. Type I
2. Type III
3. Type IV
4. Type V

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