

## Liver and Pancreas Case Studies

### Case 1

**HISTORY:** This 40-year-old woman developed severe, colicky right upper quadrant pain. For several years she had noted discomfort following ingestion of fatty meals.

**PHYSICAL FINDINGS:** Obese woman in moderate distress; tenderness beneath the right costal margin.

**LABORATORY RESULTS:**

WBC: 13,000 /cu mm (nl: 4,000-11,000/cu mm)

WBC diff: 81%seg,1%band,1%eos,1%baso,14%lymph,2%mono

abdominal x-ray: distension of the gallbladder

**CLINICAL COURSE:** She underwent an operation. The abdomen contained 200 cc of cloudy ascites. Post-operatively she complained of severe epigastric pain and was hypotensive. The next day the following chemistries were obtained:

calcium: 6.5 mg/dl (normal 8.5-10 mg/dl);

amylase: 500 U/dl (normal 45-200);

lipase: 4.0 U (normal 0.5-1.5).

She died on the third postoperative day.

The original episodes of abdominal discomfort over the last few years were most likely due to what?

The postoperative serum calcium value was most likely related to what?

If the patient had survived, what would have been some of possible outcomes?

### Case 2

**HISTORY:** This 64-year-old man was admitted with a three week history of nausea, vomiting, food intolerance, dark urine, light colored stools, jaundice and 6 kg weight loss. Abdominal pain was minimal to absent.

**PHYSICAL FINDINGS:** liver mildly enlarged to percussion, fluctuant abdominal mass in right upper quadrant of abdomen thought to be distended gall bladder, spleen not palpable.

**LABORATORY FINDINGS:**

alkaline phosphatase: 400 U/L (normal 30-115)

bilirubin, total/direct: 12.9/10.9 mg/dl

AST(SGOT): 53 mU/ml (normal 8-40)

serum protein, total/albumin: 6.8/3.7 g/dl

What would expect to be the most likely finding on liver biopsy?

At surgery, the finding that would fit best with the clinical profile would be what?

Would you expect the patient's urine to be positive for: urobilinogen (?), conjugated bilirubin(?), unconjugated bilirubin(?).

The most likely diagnosis in this case is?

### Case 3

This 52-year-old lawyer had malaise and anorexia and fatty food intolerance for 2 weeks before admission, dark urine and vomiting for 1 week, jaundice and light colored stools for 3 days. He had lost 12 kg in the previous six months, drank 15-20 cans of beer per week, and had been exposed to a person with jaundice one month previously.

Laboratory Findings

Hemoglobin-16.0 g/dl

bilirubin-5.2/8.1 mg/dl; AST (SGOT)-250 mU/ml; serum albumin-3.4 g/dl; serum gamma globulin-3.3 g/dl; alkaline phosphatase-180 mU/ml (normal 30-85).

The disease process which best characterizes this clinical scenario is?

#### Case 4

HISTORY: This 20-year-old student was admitted with a 10-day history of chills, fever, nausea, vomiting, dark urine, fatigue, and a 2-day history of jaundice. He had been living in a communal setting for the last 10 months and admitted using marijuana and LSD.

PHYSICAL FINDINGS: Tenderness in the right upper quadrant, excoriations of the pubic area and scrotum.

LABORATORY RESULTS:

Hemoglobin: 14.2 g/dl

WBC: 5,400 /cu mm

bilirubin, total/direct: 12.0/6.2 mg/dl

alkaline phosphatase: 250 U/L (normal 30-115)

AST(SGOT): 1120 mU/ml (nl:8-40 mU/ml)

LDH: 240 mU/ml (nl:110-212mU/ml)

CLINICAL COURSE: The patient refused hospitalization, and disappeared after percutaneous liver biopsy was performed.

What other laboratory tests would help you confirm a diagnosis in this case?

The cause of this patient's illness is most likely due to what?

Urine would be expected to be positive for: bilirubin (?), bilirubin (?)

#### Case 5

This 17-year-old girl had an episode of jaundice and malaise at age 8. One year before admission she developed jaundice, fatigue, acholic stools and dark urine which lasted for six weeks. Four weeks before admission she again developed jaundice and one week later vomited bright red blood.

Physical exam revealed a slightly enlarged liver and a very large spleen. Esophageal varices were seen on barium swallow.

LABORATORY RESULTS

Hemoglobin-10.2 g/dl; WBC-5,300/mm<sup>3</sup>; bilirubin-1.1/1.7 mg/dl; alkaline phosphatase-320 mU/ml (normal 30-85);

AST(SGOT)-460 mU/ml; ALT(SGPT)-126 mU/ml.

A splenectomy and porto-caval shunt was done.

The disease process which best characterizes by this clinical scenario is?

What do you suspect is the etiology of her current illness?

What other laboratory test or procedure would help you confirm the diagnosis?

#### Case 6:

This 58-year-old man had intermittent thrombophlebitis in both legs for two years. Two weeks before admission scleral icterus was noted along with the vague feeling of weakness.

Physical exam revealed a fluctuant distinct mass just below the right rib margin, but no other abdominal findings.

LABORATORY RESULTS

Bilirubin-12.0/15.7 mg/dl; alkaline phosphatase-500 mU/ml; AST(SGOT)-55 mU/ml; serum albumin-4.0 g/dl; globulin-2.8 g/dl.

An exploratory operation revealed an irregular firm mass compressing the lower common bile duct.

1. Diagnosis?
2. What else is needed to confirm?
3. Outcomes?

**Case 7:**

**HISTORY:** This 53-year-old woman was admitted with anorexia and nausea for one week and jaundice for 2 days. She had felt well since having a mitral commissurotomy for rheumatic valvulitis 5 months ago. She had stopped smoking and discontinued her daily cocktail since onset of the anorexia.

**PHYSICAL FINDINGS:** Normal except for sternal scar and jaundice.

**LABORATORY RESULTS:**

hematocrit: 42%

WBC: 9,500 /cu mm

urine bilirubin: positive

urine urobilinogen: positive

bilirubin, total/direct: 9.4/8.8 mg/dl

AST(SGOT): 920 mU/ml (normal 8-40)

alkaline phosphatase: 110 mU/ml (normal 30-115)

protein, total/albumin: 6.8/3.9 g/dl

prothrombin time: 15 sec (normal 11-13)

1. The most likely diagnosis?
2. What's needed to confirm?
3. Long-term complications in patients with this disease include ?

**Case 8:**

**HISTORY:** This previously well 42-year-old woman presented with a 2-day history of crampy right upper quadrant abdominal pain. She had been using oral contraceptives for the past 4 years.

**PHYSICAL FINDINGS:** Mildly obese woman in moderate distress. The abdomen was tender in the right upper quadrant. Liver and spleen were not palpable.

**LABORATORY RESULTS:**

fasting glucose: 115 mg/dl

bilirubin, total/direct: 2.0/1.6 mg/dl

urine bilirubin: positive

urine urobilinogen: negative

**CLINICAL COURSE:** She was treated with nasogastric suctioning and intravenous fluids with good response. A repeat bilirubin the next day was 2.4 mg/dl.

1. The most likely diagnosis?
2. The urinary findings would be compatible with?

**Case 9:**

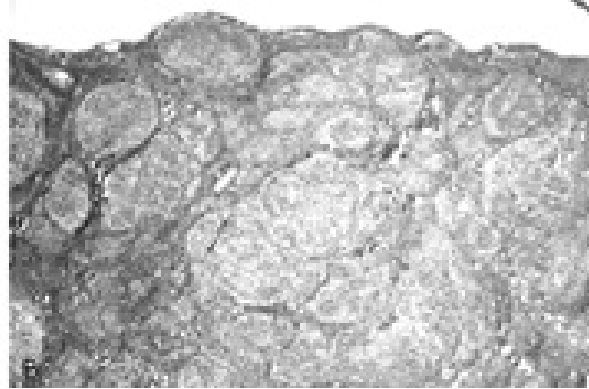
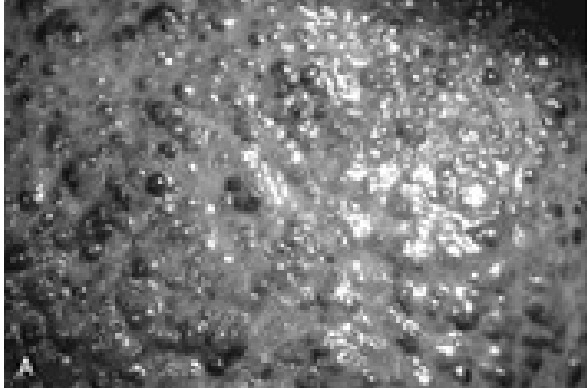
This 62-year-old man was admitted 6 days before death in a semi-comatose state and no history was obtainable. He was severely jaundiced and had a positive abdominal fluid wave.

**LABORATORY RESULTS**

Bilirubin-18.6/22 mg/dl; alkaline phosphatase- 200 mU/ml (normal 30-85); AST(SGOT) 435 mU/ml.

**CLINICAL COURSE:** His condition worsened and 2 days before death he developed a fever and leukocytosis.

1. The disease process which best characterizes these pictures is?



**Case 10:**

**HISTORY:** This 36-year-old male automobile salesperson was admitted to the hospital complaining of hematemesis, melena and extreme weakness of 3-months duration. He had sustained a laceration of the liver capsule in an automobile accident ten years earlier, at which time his liver was described as enlarged soft and abnormally light in color. He was hospitalized four years earlier for an episode of jaundice, during which a hepatic needle biopsy revealed well-advanced, micronodular cirrhosis. He admits to having been a "moderate-to-heavy" drinker but has abstained from alcoholic beverages since his last hospitalization.

**PHYSICAL FINDINGS:** Pale skin; slightly icteric sclera; liver not palpable but spleen enlarged and firm; gynecomastia; testicular atrophy.

**IMAGING RESULTS:**

barium swallow radiography-evidence of esophageal varices

**CLINICAL COURSE:** Despite attempts to control hemorrhage the patient developed irreversible shock and died on the fifth hospital day. Autopsy revealed 1,200 ml of clear straw-colored fluid in the peritoneal cavity.

1. Microscopic examination of the liver biopsy specimen at the time of his automobile accident would most likely reveal an excess of?
2. The feature ultimately most responsible for the fatal upper gastrointestinal hemorrhage is?