

## Small Group Session II Case 1

A 55 year old homeless man with a history of chronic alcoholism and tobacco use was brought to the Emergency Room after being found inebriated and with a laceration on his forehead. He admitted to having drunk “a little whiskey and a few beers” over the last three days, and he remembered having stumbled on a curb. In addition to his head injury, he complained to the physician of abdominal discomfort for the last few days.

On physical examination, the liver edge was palpable under the right costal margin (this indicates that the liver is enlarged), and was tender, although there was no evidence of trauma to the abdomen. Laboratory studies were ordered, and the results demonstrated mild elevations of liver enzymes and low serum protein as follows:

### Lab Values:

Aspartate aminotransferase (AST)	60 units/L (normal 0-50 units/L)
Alanine transferase (ALT)	65 units/L (normal 0-60 units/L)
Alkaline phosphatase	100 units/L (normal 0-120 units/L)
Total protein	6.0 g/dl (normal 6.4 – 8.5 g/dl)
Albumin	3.5 g/dl (normal 3.7 -5.2 g/dl)
Bilirubin levels were within normal limits	

The head laceration was sutured, the patient was counseled to stop drinking, and he was released from the Emergency Room with a follow-up appointment for the clinic.

### **Instructions**

You have been provided with an image of the gross appearance and histologic images of normal liver and a liver with the changes expected in this patient. Your assignment is to answer the following questions, working as a team. Refer to Robbins for verification of your responses. Write your answers in the spaces provided.



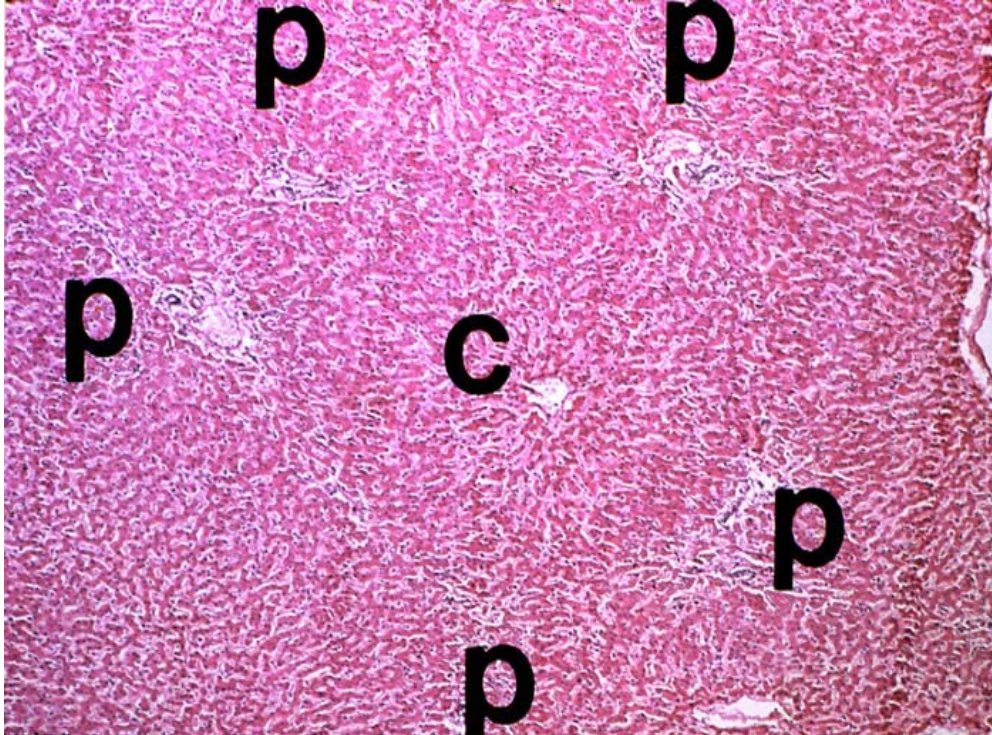
**Task 1.** Examine the gross appearance of the liver. Its color is more yellow than a normal liver and the cut surface appears shiny. In addition, it is larger than normal (note the weight of 3000g) What term is used to describe the change in size and color of the liver?

**Task 2.** Correlate the gross appearance of the abnormal liver with the findings on physical examination in the patient.

**Task 3.** Examine the photograph of the normal liver histology. Note the following normal features of liver: portal tracts, central vein, liver plates, and sinusoids. The central vein is located next to the “C” and the portal tracts are located next to the “P” in the image below. The sinusoids run between the plates of hepatocytes from the portal tract to the central vein.

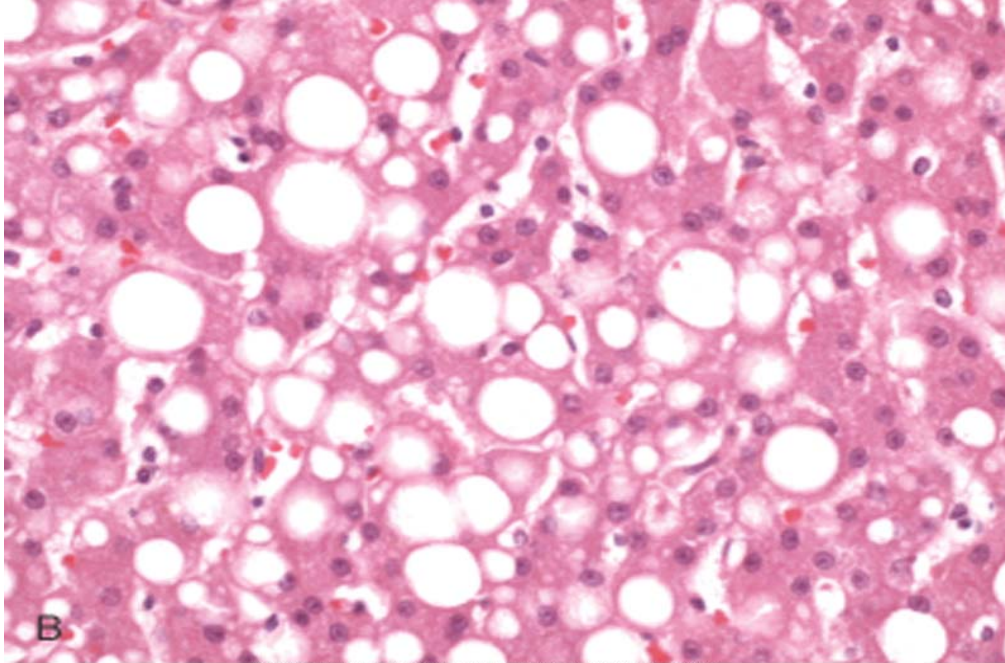
What 3 structures make up the portal tract?

Normal Liver:



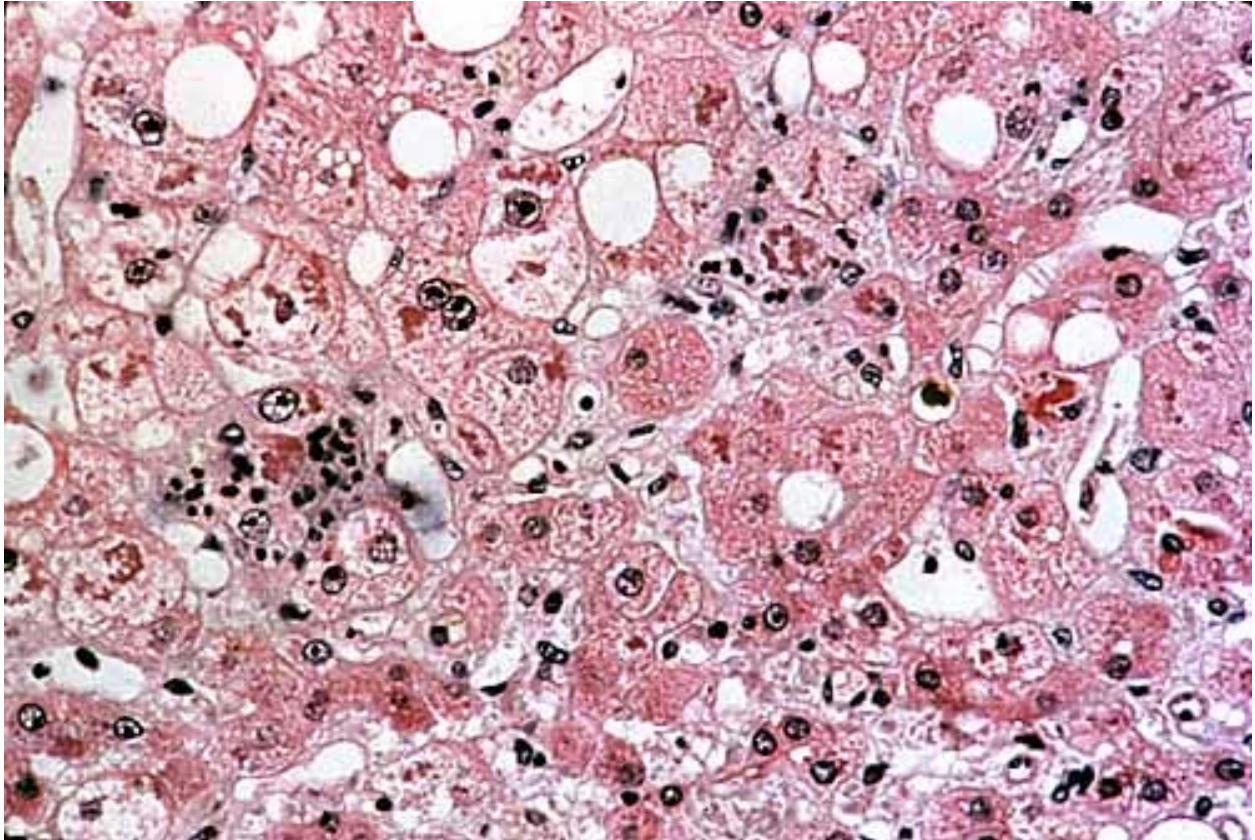
**Task 4.** Examine the sections of abnormal liver. What changes do you see, compared with the normal liver? Describe the appearance of the liver cells.

Abnormal Liver  
Image 1



Kumar et al: Robbins & Cotran Pathologic Basis of Disease, 8th Edition.  
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**Image 2: This demonstrates steatohepatitis with lymphocytes present around hepatocytes with lipid droplets present.**



**Task 5.** What is the term used to refer to abnormality seen in this liver? Why does this type of change occur? Be specific as to pathogenetic mechanisms.

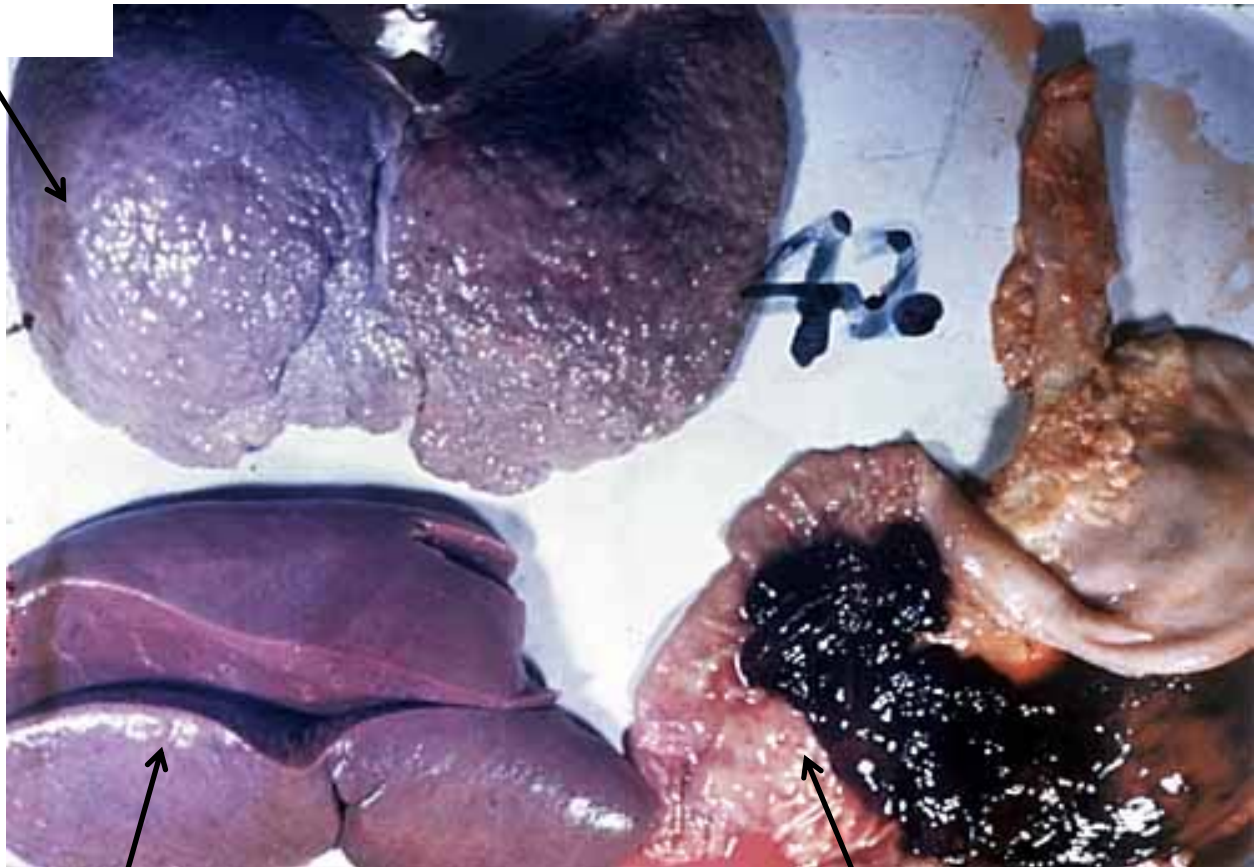
**Task 6.** Correlate the clinical findings and lab results with the pathologic changes. Identify the information in this patient's case that probably accounts for the changes seen in the liver

**Task 7.** List other clinical situations in which this type of pathologic change in the liver is seen.

**Task 8.**

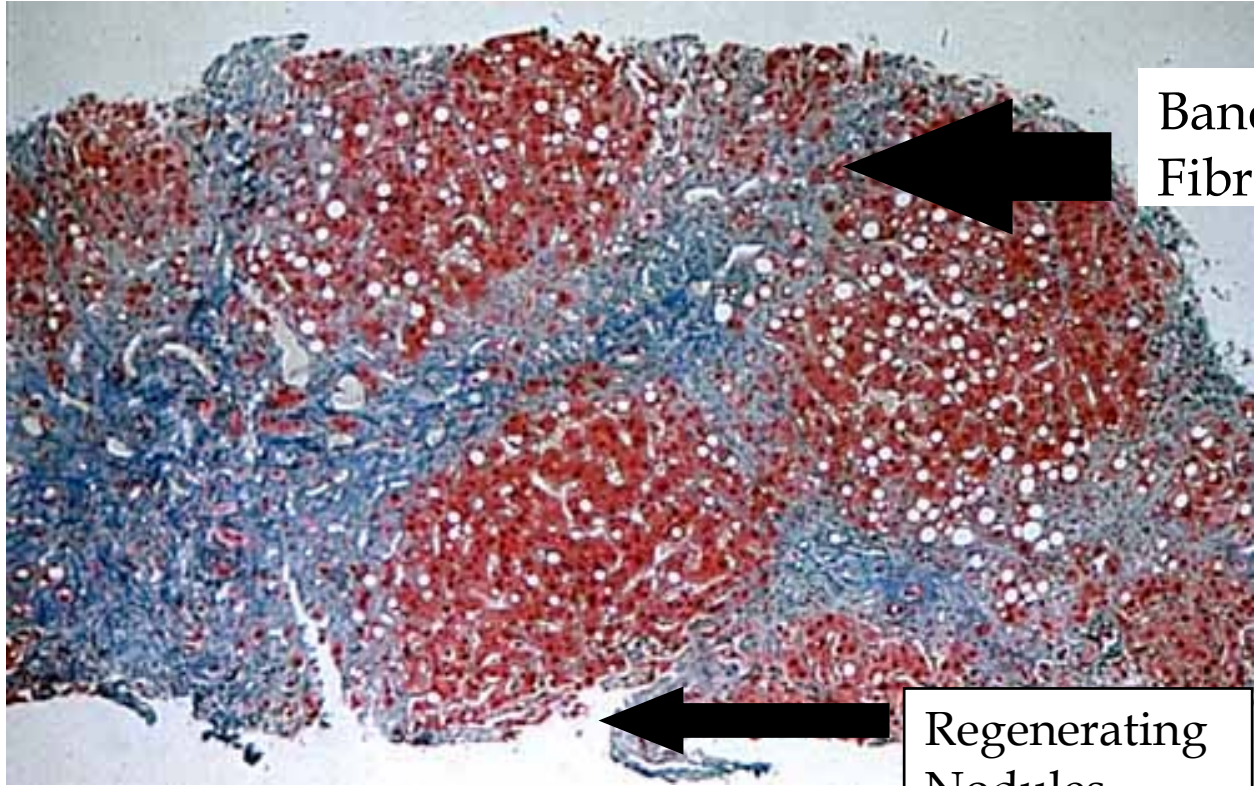
If this condition continues over a long period of time, many changes can occur, including those seen grossly in the the liver and the stomach and microscopically in the liver in the following images. How do these changes relate to chronic alcoholism?

Liver



Hypertrophic  
Spleen

Stomach with  
Blood



Bands of  
Fibrosis

Regenerating  
Nodules