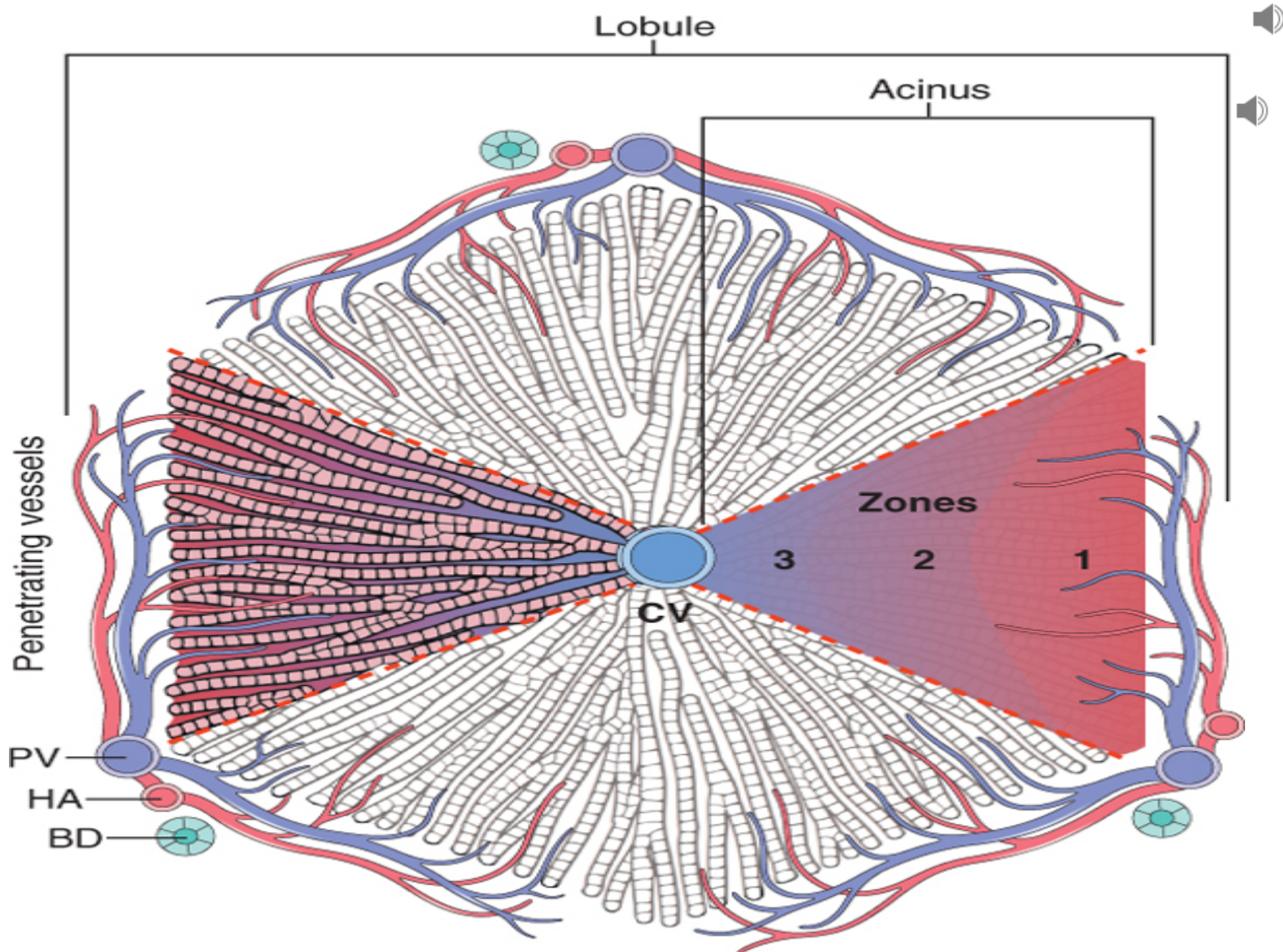


LECTURE 1





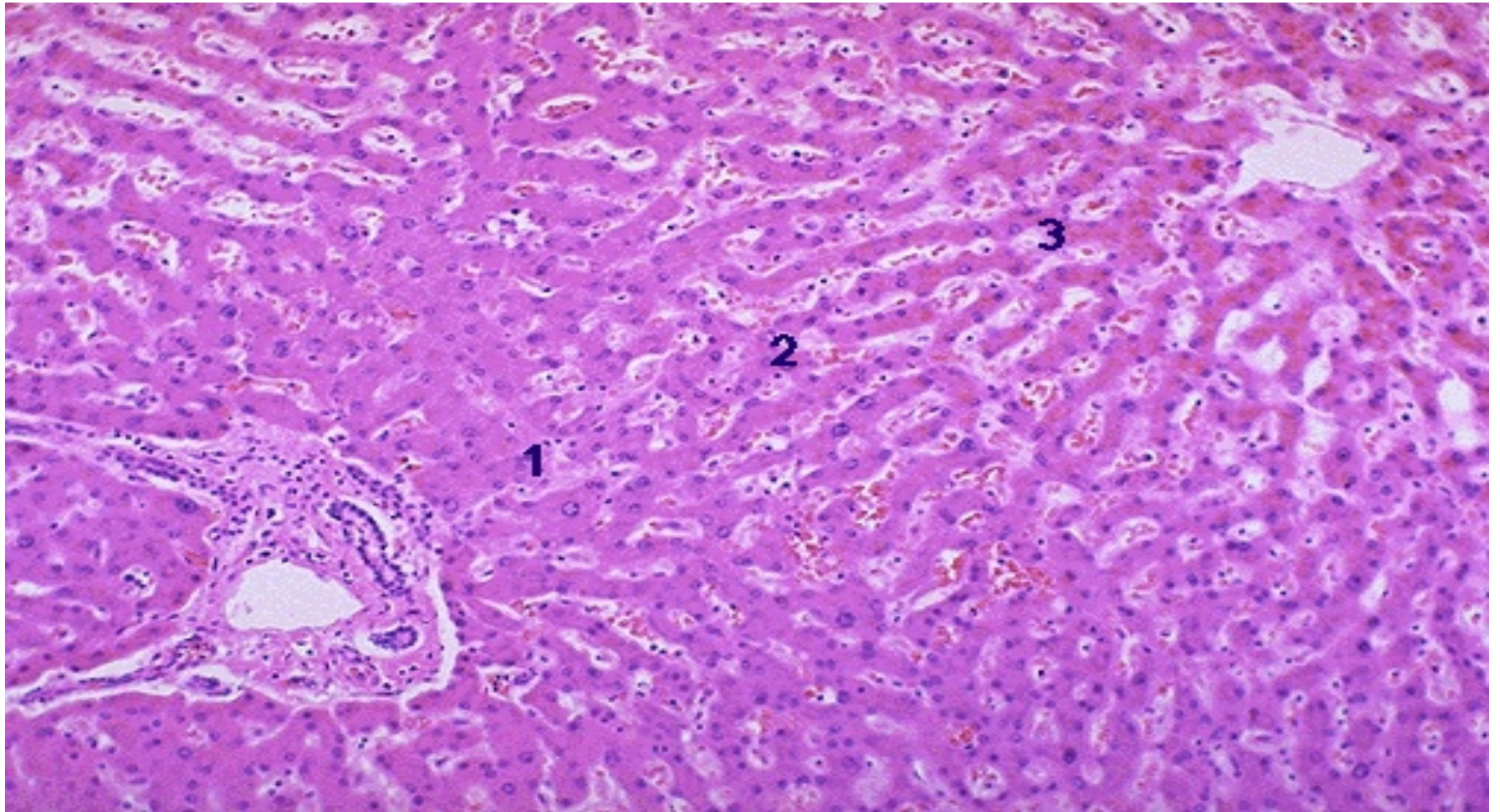
The parenbchyma is organized into plates of hepatocytes

Hepatocytes are radially oriented around terminal hepatic vein (central v.)

-Hepatocytes show only minimal variation in the

overall size but nuclei may vary in size , number & ploidy esp. with advancing age

-Vascular sinusoids present bet. cords of hepatocytes





Hepatic Injury

1-Inflammation (Hepatitis)

2-Ballooning degeneration :

- irregularly clumped cytoplasm showing large, clear spaces.

- Substances may accumulate in viable hepatocytes, including fat, iron, copper, and retained biliary material



3-Steatosis (fatty change)

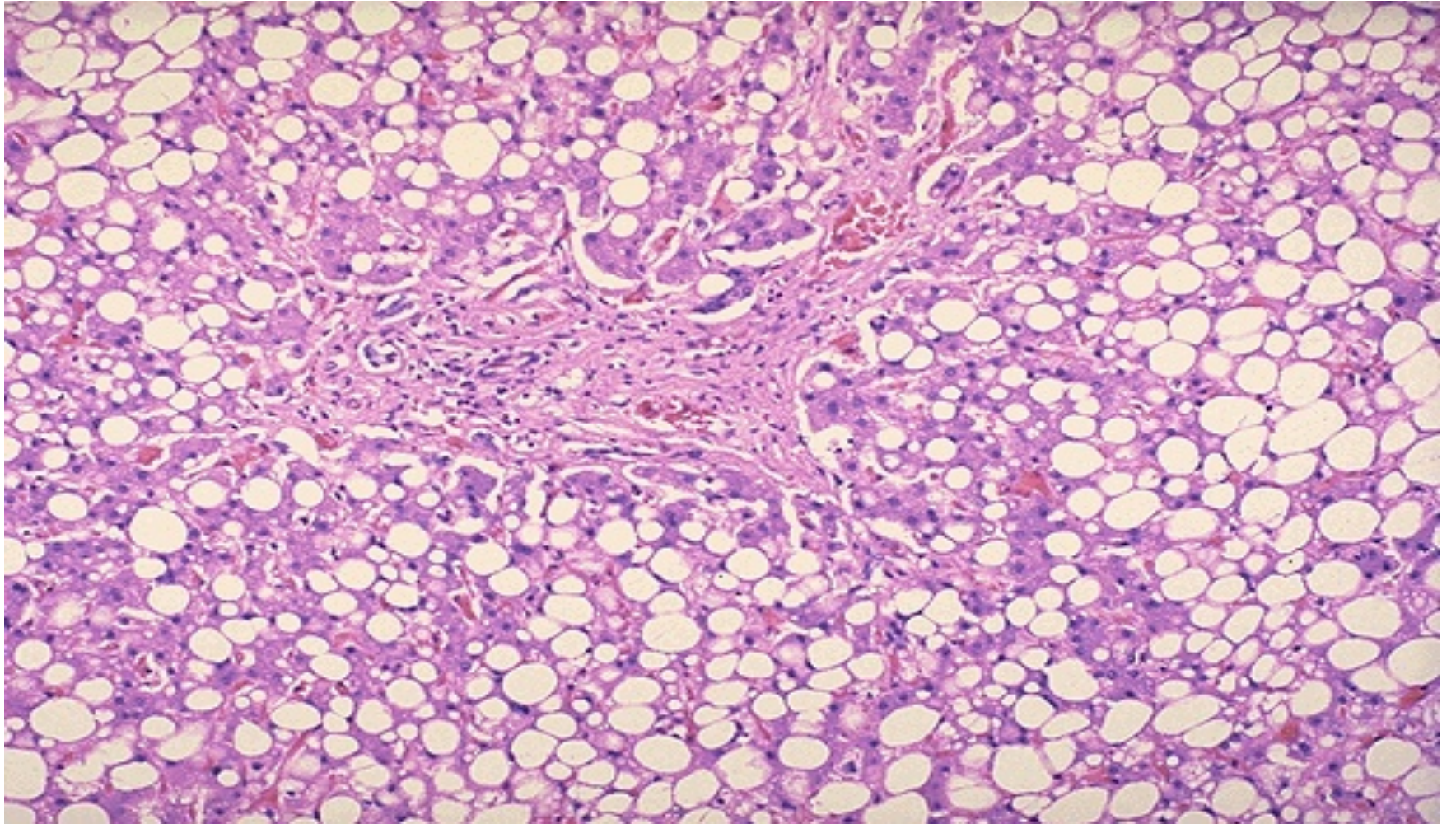
microvesicular:ALD,Reye syndrome,
acute fatty change of pregnancy

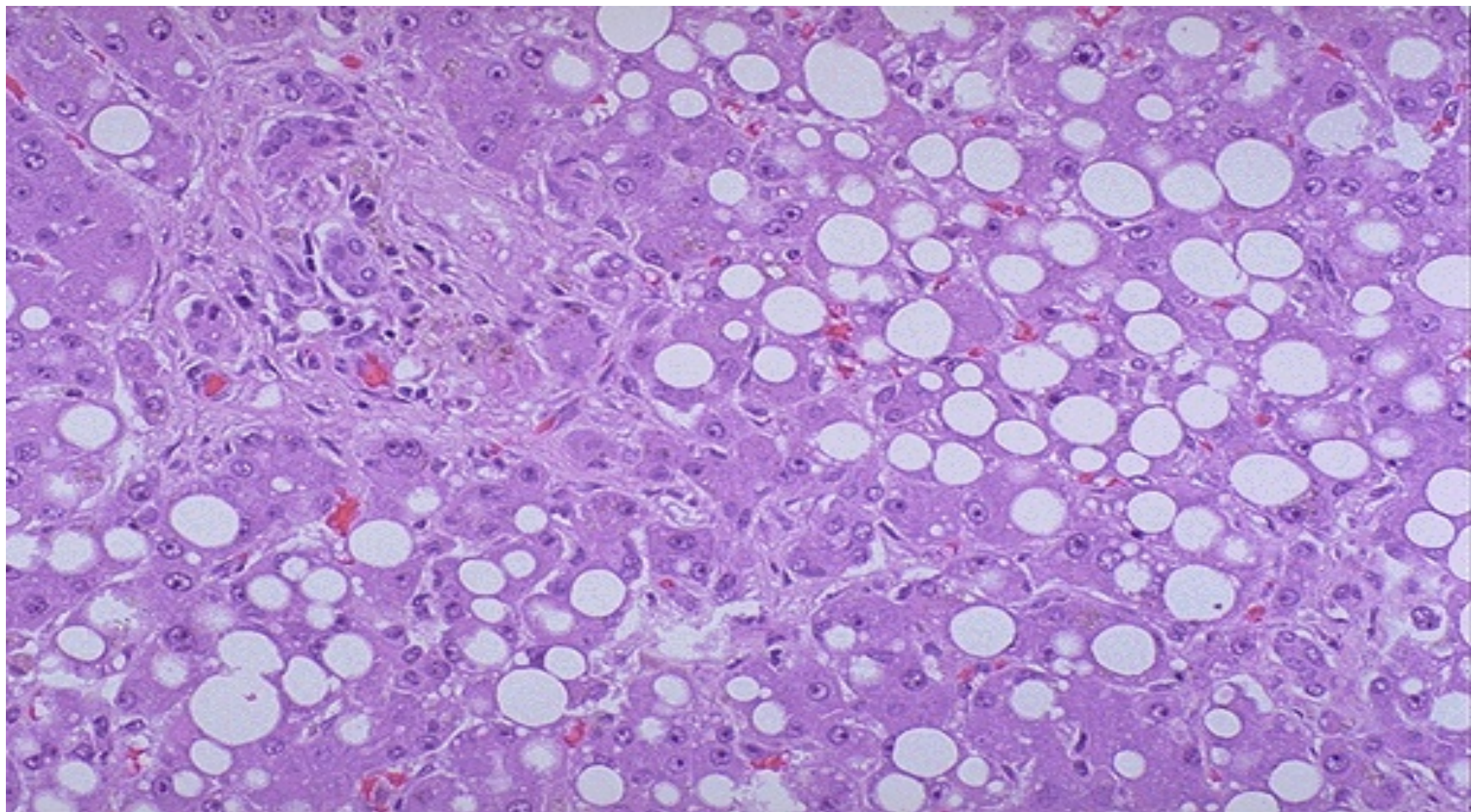
macrovesicular:DM,obese



Fatty change









4-Necrosis

- Depending on the type:

Coagulative necrosis :around central v.

Councilman bodies

Lytic necrosis

Depending on the cause

Ischemic

Toxic



-depending on location

Centrilobular necrosis:

Mid zonal :

Periportal : interface hepatitis

Focal:

Piece meal necrosis

bridging necrosis

Diffuse:

massive & submassive necrosis



5-Regeneration

- evidenced by increased mitosis or cell cycle markers.
- the cells of the canal of Hering are the progenitor for hepatocytes & bile duct cells (oval cells).



6-Fibrosis

- portal or periportal fibrosis
- pericentral- around the central vein.
- bridging fibrosis

7-Cirrhosis

micronodular

macronodular

8-Ductular proliferation



Hepatic Failure

-It results when the hepatic functional capacity is almost totally lost (80 – 90%)

-Causes

1. Massive hepatic necrosis

- Fulminant viral hepatitis

- Drugs & chemicals

 - acetaminophen

 - halothane

 - anti TB drugs

 - CCL4 poisoning

 - Mushroom poisoning

2-Chronic liver disease



- ### 3-Hepatic dysfunction without overt cirrhosis
- Reye's syndrome
 - Tetracycline toxicity
 - Acute fatty liver of
pregnancy



4-Hepatorenal syndrome

Renal failure in patients with severe liver disease with no morphologic or functional causes for renal failure



Massive hepatic necrosis

- Fulminant hepatic failure from the onset of symptoms to hepatic encephalopathy (within 2 -3 wks).
- Subfulminant (within 3 months).

Causes:

- 1-Viral hepatitis 50 – 65% (B, B-D, A,C hepatitis)
- 2-Drugs & chemicals 20 – 30%
- 3-Heat stroke
- 4-Hepatic vein obstruction
- 5-Wilson disease
- 6-Acute fatty liver of pregnancy
- 7-Massive malignant infiltration
- 8-Reactivation of chronic HBV hepatitis on HDV superimposed infection
- 9-Autoimmune hepatitis