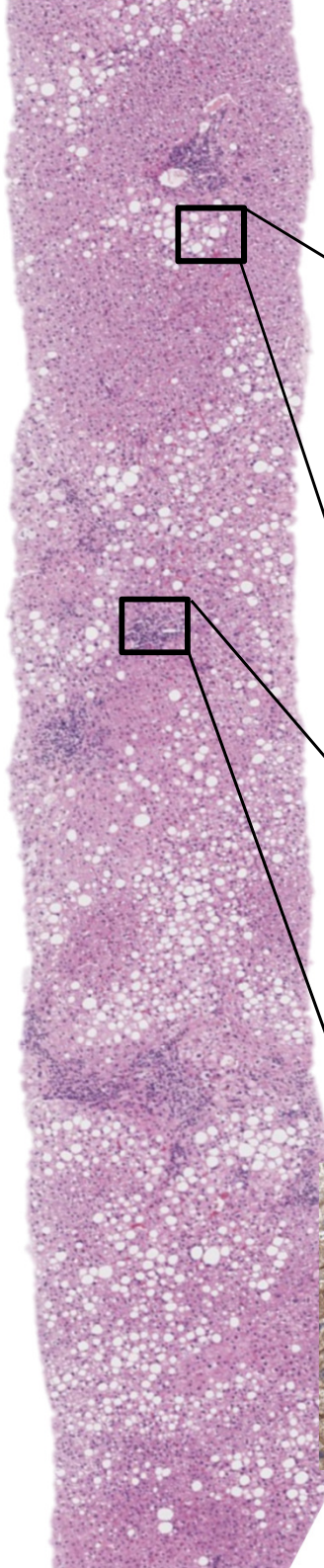
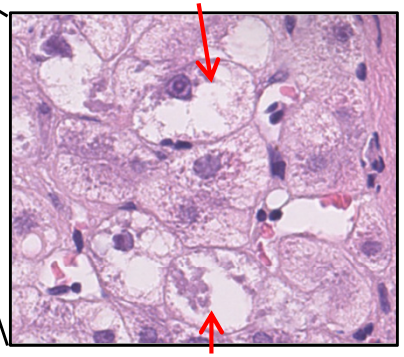
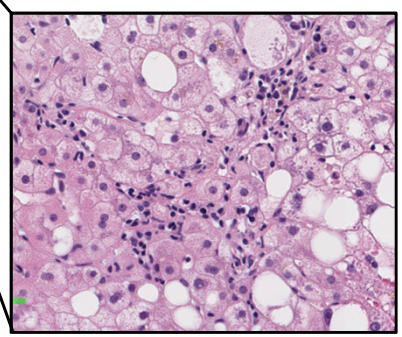
Steatohepatitis





Ballooned hepatocyte

Mallory-Denk body – rope-like intracytoplasmic inclusion. Can be highlighted with IHC including CK8/18, CAM5.2 and Ubiquitin.



Parenchymal inflammation

Aetiology:

- Metabolic causes (NAFLD): Obesity, Diabetes, high cholesterol, hypertension. *AKA NASH (non-alcoholic steatohepatitis)*
- Excessive Alcohol (ARLD) *AKA ASH (alcoholic steatohepatitis)*

Clinical/biochemical picture:

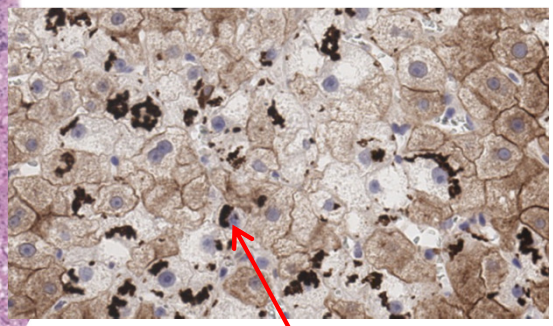
- Majority asymptomatic - often only elevated ALT on bloods
- Can have elevated fibroscan results - biopsied to assess degree of fibrosis

Liver Biopsy:

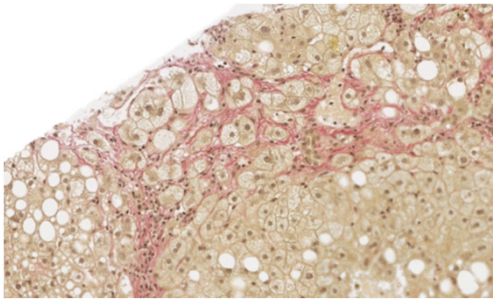
- Macrovesicular steatosis (large droplet)
- PLUS: Patchy parenchymal inflammation
- PLUS: Ballooned hepatocytes (+/- Mallory-Denk bodies)
- Often show zone 3 (surrounding central vein) sinusoidal and pericellular fibrosis giving a 'chicken wire' appearance
- NAFLD cases show nuclear glycogenation of hepatocytes (If underlying NAFLD can score severity using scoring system such as Kleiner)
- ARLD cases can show neutrophilic infiltrate and prominent Mallory-Denk bodies
- Features can often be indistinguishable between metabolic & alcohol

Clinical course:

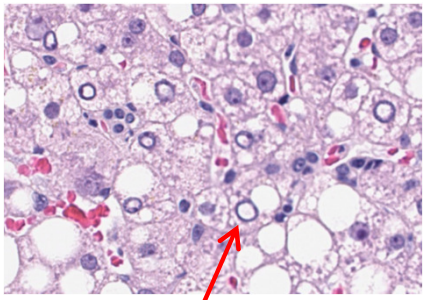
- Can have fluctuating LFTs with resolution of hepatitis to 'Steatosis' & then with recurrent episodes of steatohepatitis.
- Modifying risk factors (weight loss, improved diabetic control, stop alcohol) can improve findings & zone three fibrosis can regress.
- If continue with insult, eventually can progress to cirrhosis.



CAM5.2 stain highlighting Mallory-Denk bodies



Van Gieson showing zone three pericellular fibrosis



Nuclear glycogenation in metabolic causes