



FATTY CHANGE (steatosis)



Dr. Kaushal Kumar

Assistant Professor & Head

Department of Veterinary Pathology

Bihar Veterinary College

Bihar Animal Sciences University, Patna



Introduction



Fatty change (or, in its Greek version, steatosis)

It designates the excess accumulation of lipids, primarily triglycerides, within hepatocytes.

Basically it denotes- some imbalance in normal fat processing and storage,

It occurs in a wide variety of conditions, both hepatic and extrahepatic, and, by itself, provides little etiologic or diagnostic leverage.

Fatty Change:: Fatty degeneration =fatty infiltration



Fatty Change: Introduction



Fatty change refers to an absolute increase in lipid in parenchymal cells.

Any abnormal accumulation of natural fat(triglycerides) within parenchymal cells either due to

- ✓ **excessive entry**
- ✓ **Defective metabolism**
- ✓ **defective export**

It can occurs in –

- Heart**
- Muscles**
- Kidney**
- But most common in LIVER**

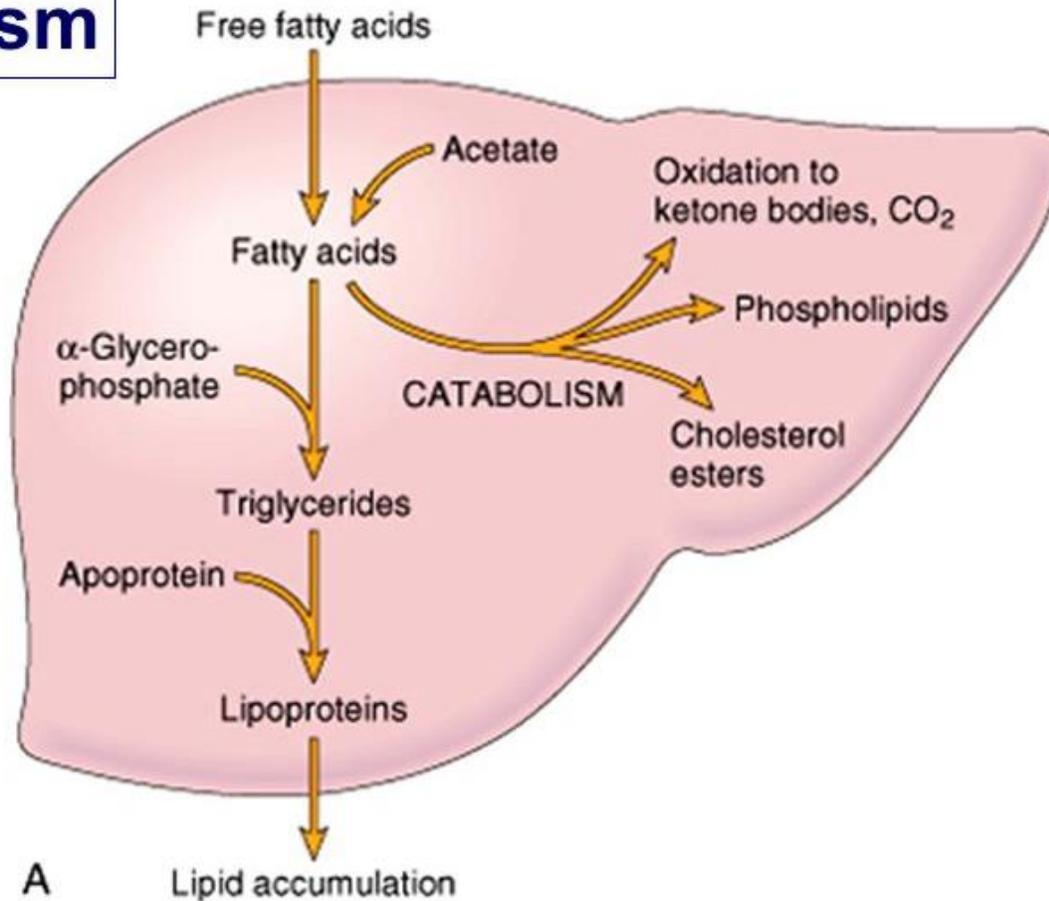
Occurs in specific diseases like atherosclerosis, lipid storage disease, alcoholic liver disease, diphtheria, diabetes, obesity, toxicosis, protein malnutrition etc.



Fatty Change of the Liver



Mechanism



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Defects in any of the steps of uptake, catabolism, or secretion can lead to lipid accumulation.



Fatty Change : Aetiology



Condition with excess Fat(- Capacity to metabolize fat exceeds)

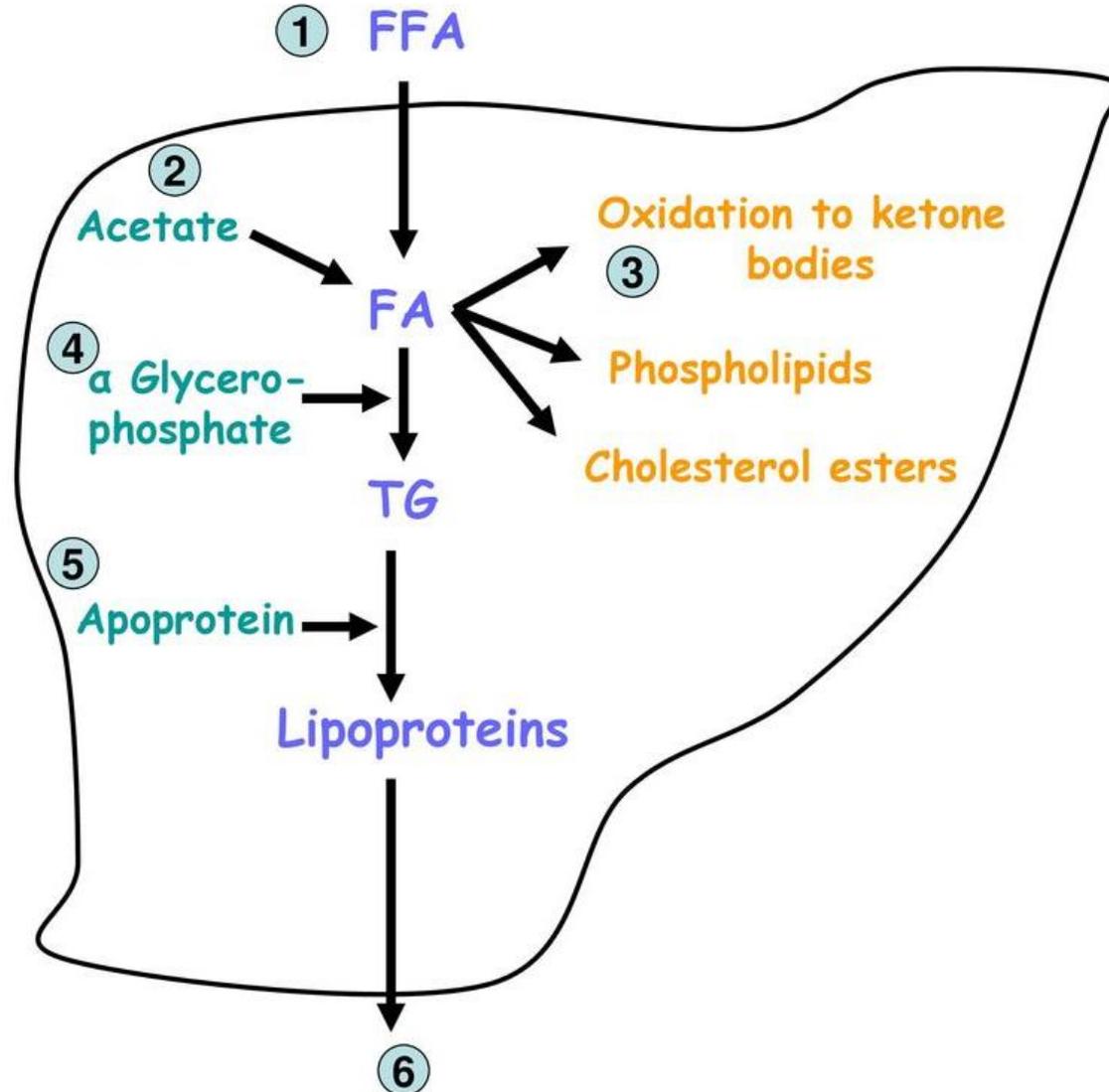
1. Obesity
2. Diabetes Mellitus
3. Congenital hyperlipdemia

Liver Cell damage:

1. Alcoholic Liver Disease
2. Starvation
3. Protein energy malnutrition
4. Chronic illness(TB)
5. Hypoxia=Anaemia,cardiac failure(Inadequate Oxidation of Fat)
6. Hepatotoxins(CCl₄,Chloroform, ether, aflatoxins etc)
7. Lipotropic Factor : choline deficiency (lipotropic agent)



Fatty Change : Pathogenesis





Fatty Change : LESIONS



Typically it is a reversible damage but can lead to inflammation / fibrosis

LIVER

Gross Lesion: Enlarged, yellow, and greasy

Microscopic Lesion: small to large intracytoplasmic fat droplet/vacuole in hepatocyte.

HEART

Gross Lesion: Thrush Breast/Tigered effect due to moderate hypoxia

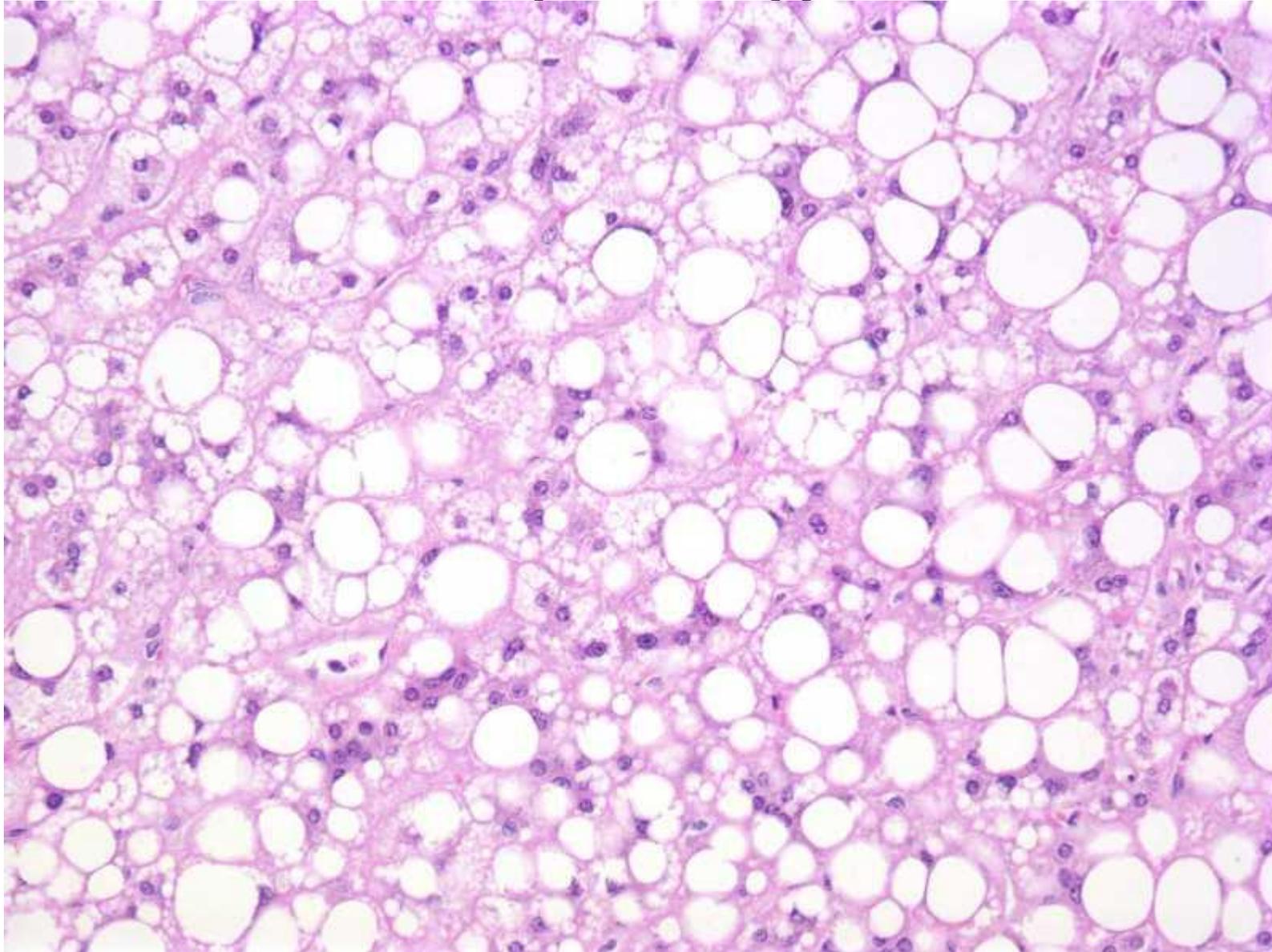
Microscopic Lesion: small to large Liposomes in the cytoplasm of heart muscles.

Special staining technique for demonstration in histological section:

**Oil Red-O or
Sudan IV**



Fatty Change



Reference: Pathologyoutlines.com



Thanks

