



FATTY CHANGE (steatosis)



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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 –

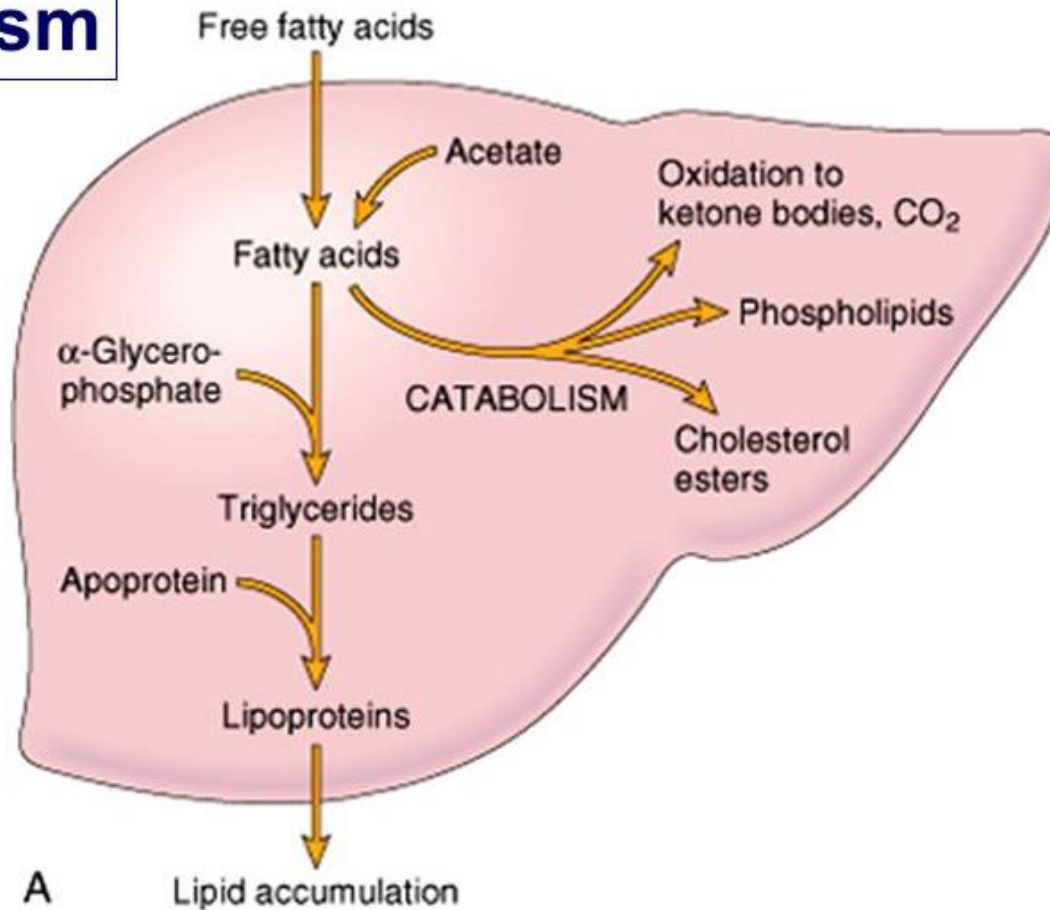
- Heart**
- Muscles**
- Kidney**
- But most common in LIVER**

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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© Elsevier. Kumar et al: Robbins Basic P¹

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)

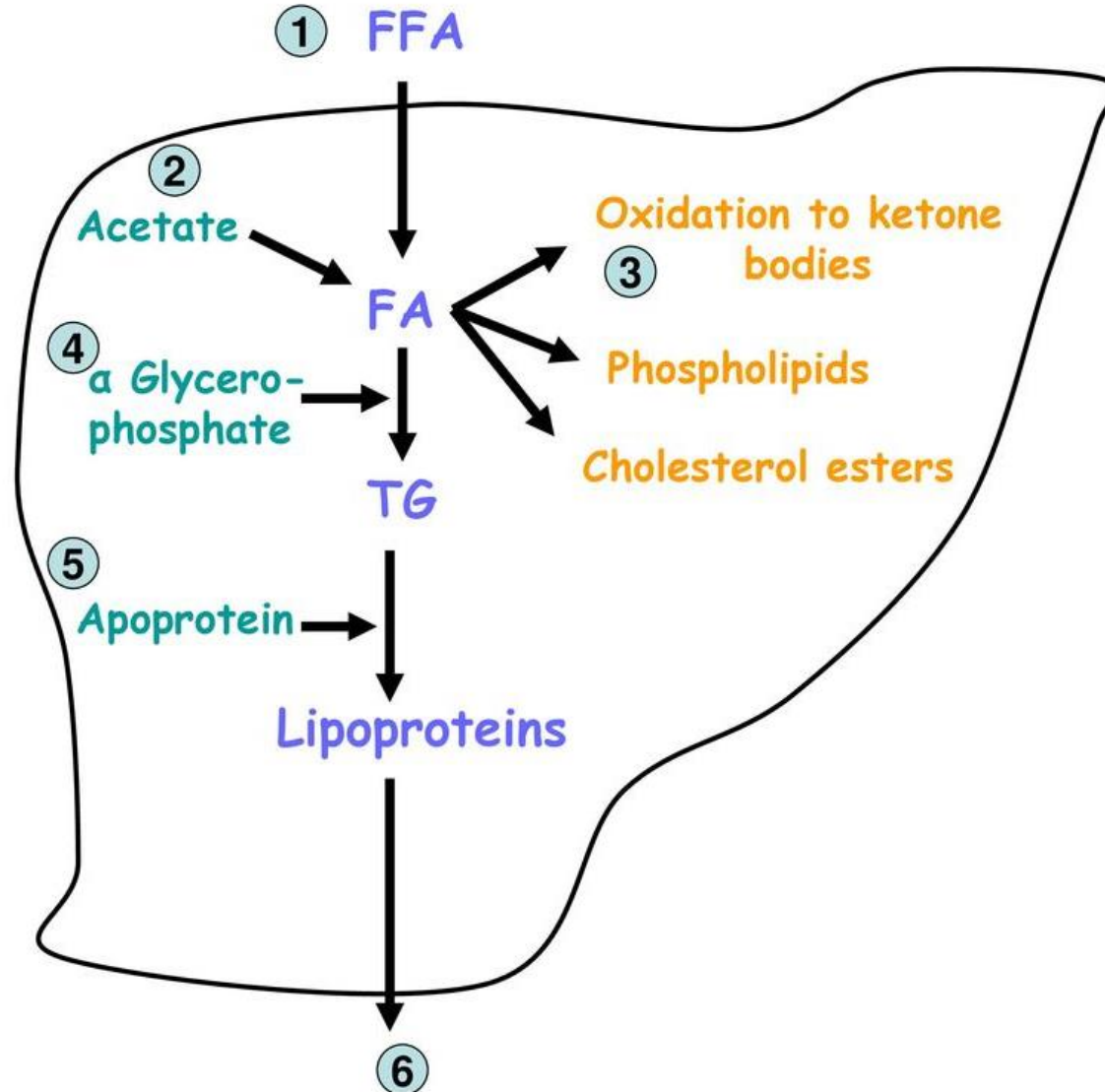
1. Obesity
2. Diabetes Mellitus
3. Congenital hyperlipdemia

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

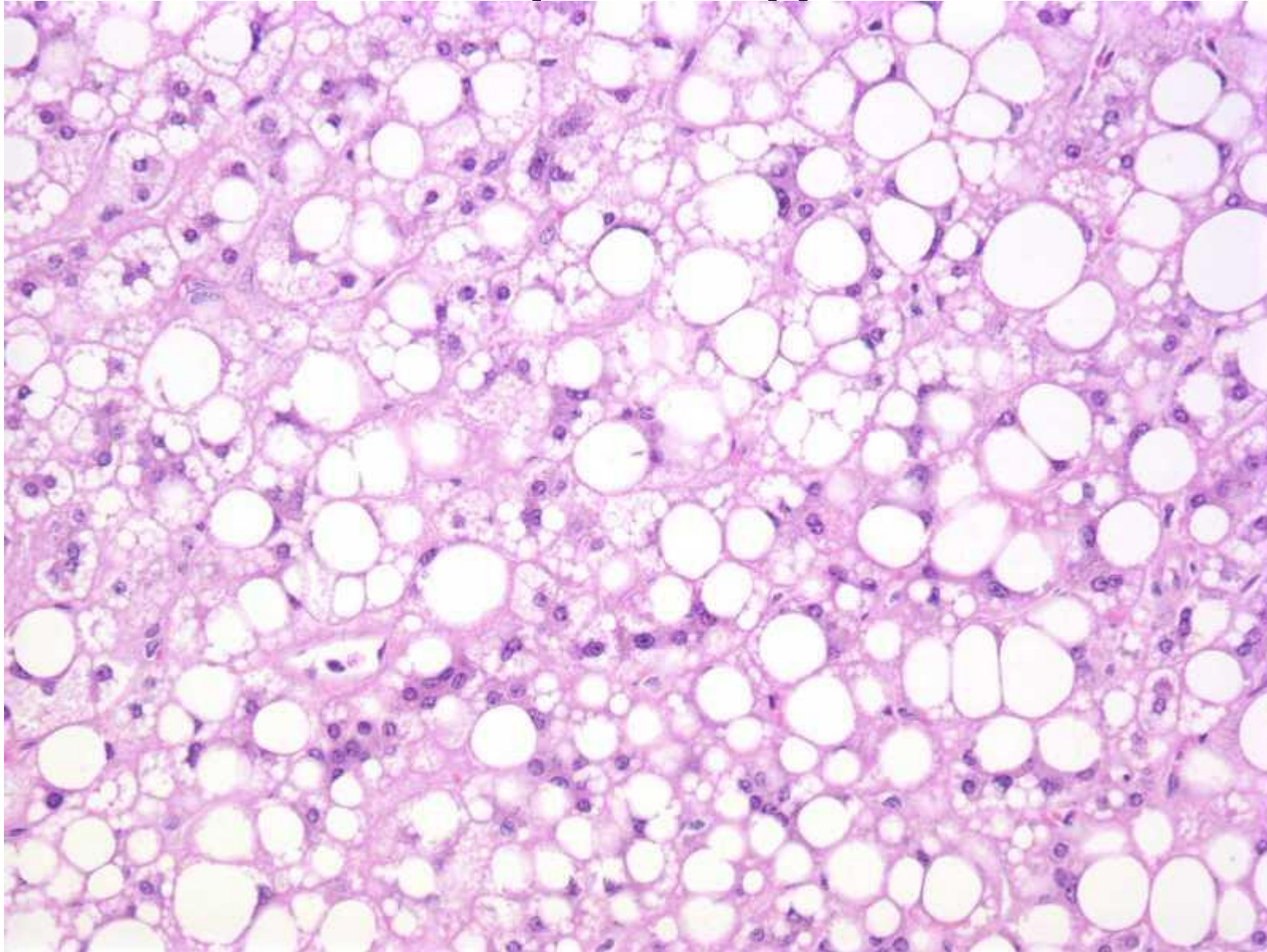
Microscopic Lesion: small to large Liposomes in the cytoplasm of heart muscles.

Special staining technique for demonstration in histological section:

**Oil Red-O or
Sudan IV**



Fatty Change



Reference: Pathologyoutlines.com



Thanks

