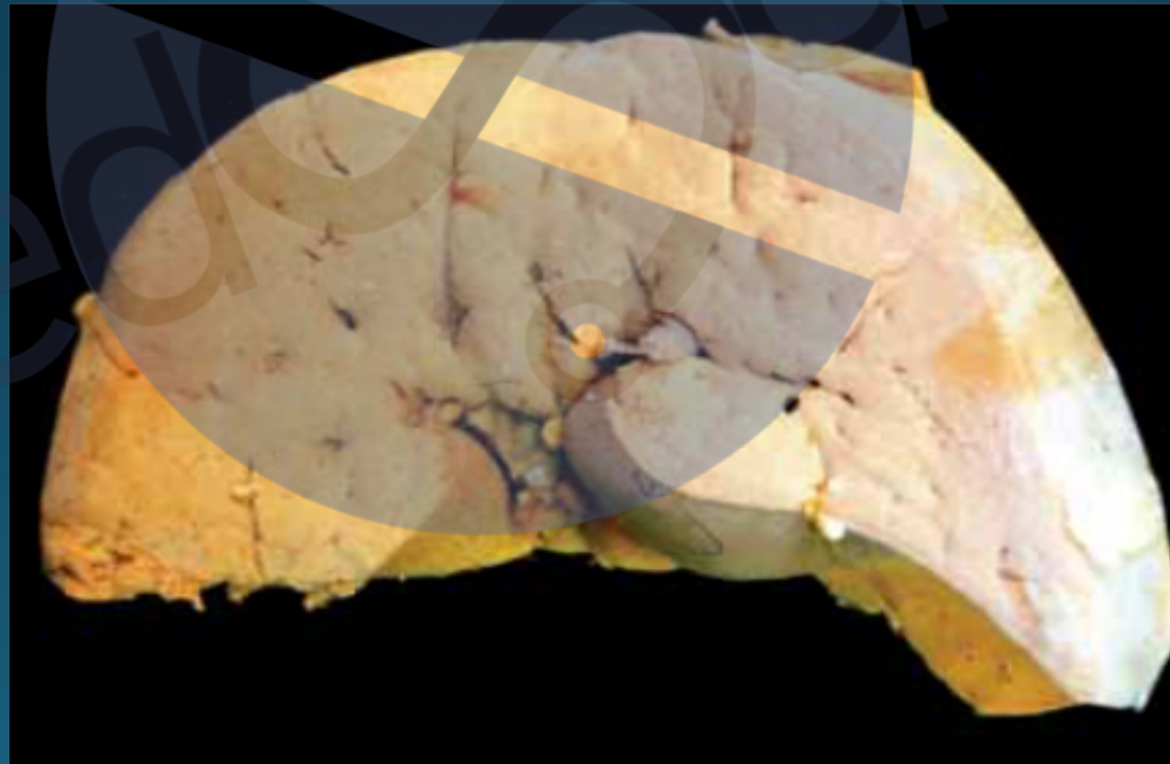


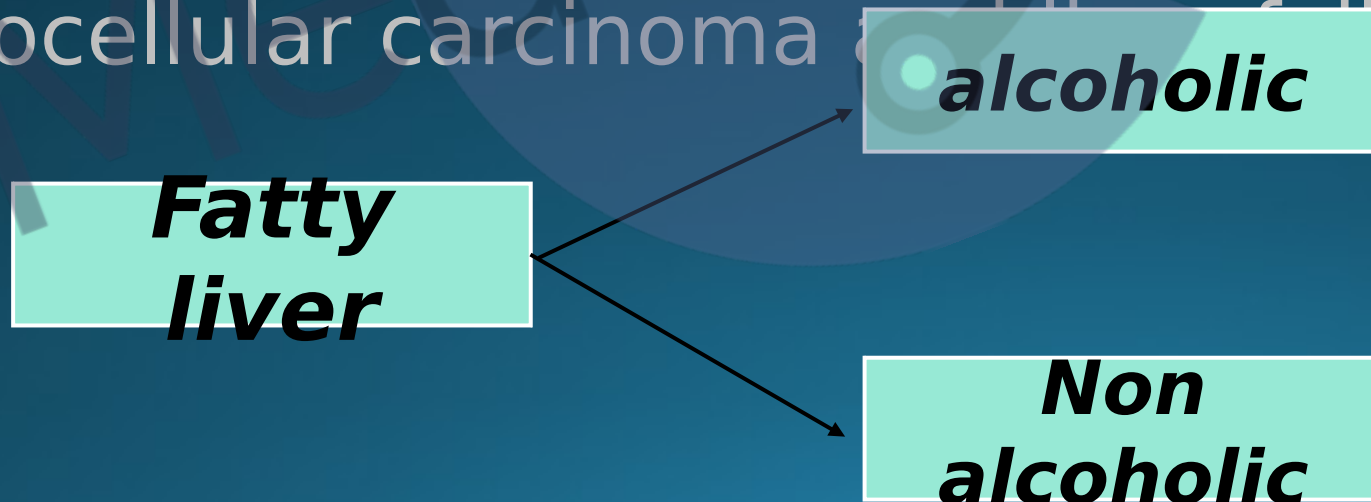


FATTY LIVER

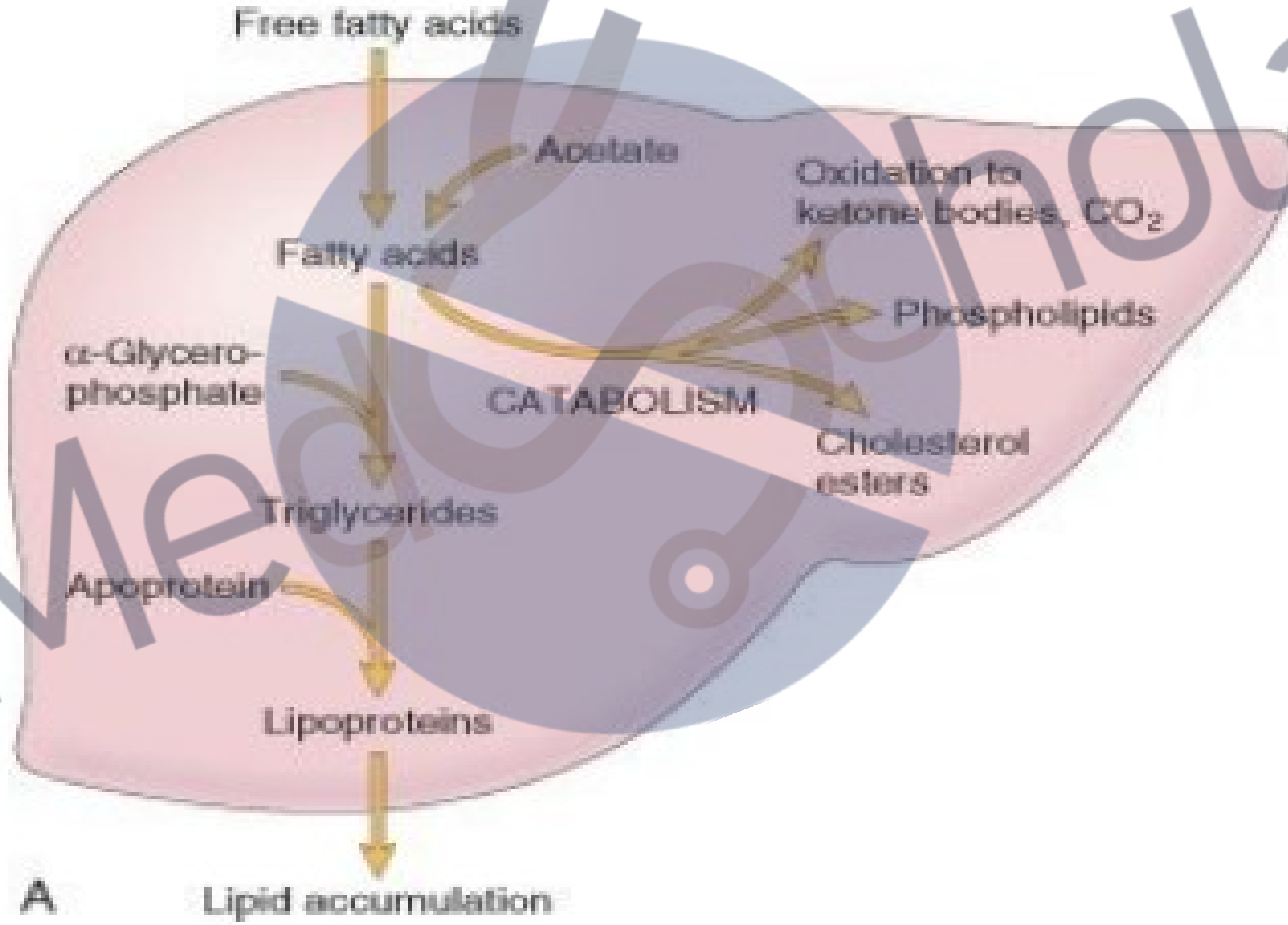


INTRODUCTION

- Normally, liver contains 5% lipid which is present in kuffer cells.
- In fatty liver, lipids mainly as trigylcerol droplets accumulates in hepatocytes.
- Leads to impairment in metabolic function of liver.
- May eventually lead to cirrhosis, hepatitis, hepatocellular carcinoma & other liver failure.



FATE OF FA IN LIVER



PATHOGENESIS

raised levels of free fatty acids.

metabolic block in the production of plasma lipoproteins

INCREASE MOBILIZATION OF FAT FROM ADIPOSE TISSUE TO LIVER.

INCREASE INFLUX OF FATTY ACIDS IN LIVER.

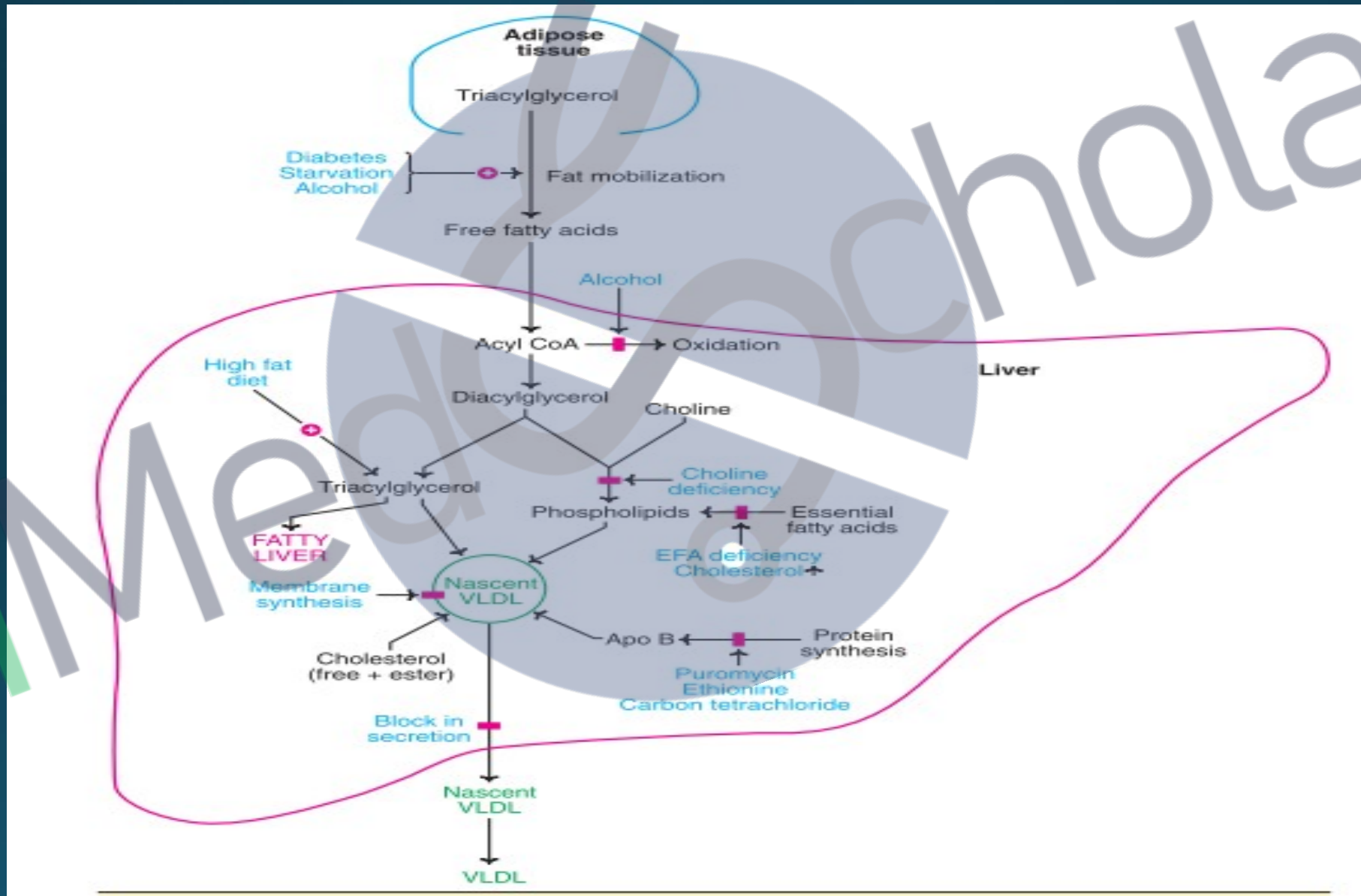
OVERPRODUCTION OF TRIACYLGLYCEROL

CONDITIONS ASSOCIATED-
Diabetes mellitus, starvation, alcoholism and high fat diet.

- (1) a block in apolipoprotein synthesis (**PURINE/CCL4**) or an increase in its degradation before it can be incorporated into VLDL,
- (2) a block in the synthesis of the lipoprotein from lipid and apolipoprotein,
- (3) a failure in synthesis of phospholipids (**CHOLINE DEFICIENCY/ESSENTIAL FA DEFICENCY**)

(4) a failure in the secretory

DIAGRAMMATIC REPRESENTATION



LIPOTROPIC FACTORS

- substances the deficiency of which causes fat (triacylglycerol) to accumulate in liver.
- **CHOLINE**-essential for fat metabolism. Acts as a methyl donor.

Deficiency leads to-

Decreased phospholipid synthesis

Impaired formation of lipoprotein membrane

Reduced synthesis of carnitine due to insufficient supply of methyl

groups

Impairment in fatty acid oxidation.

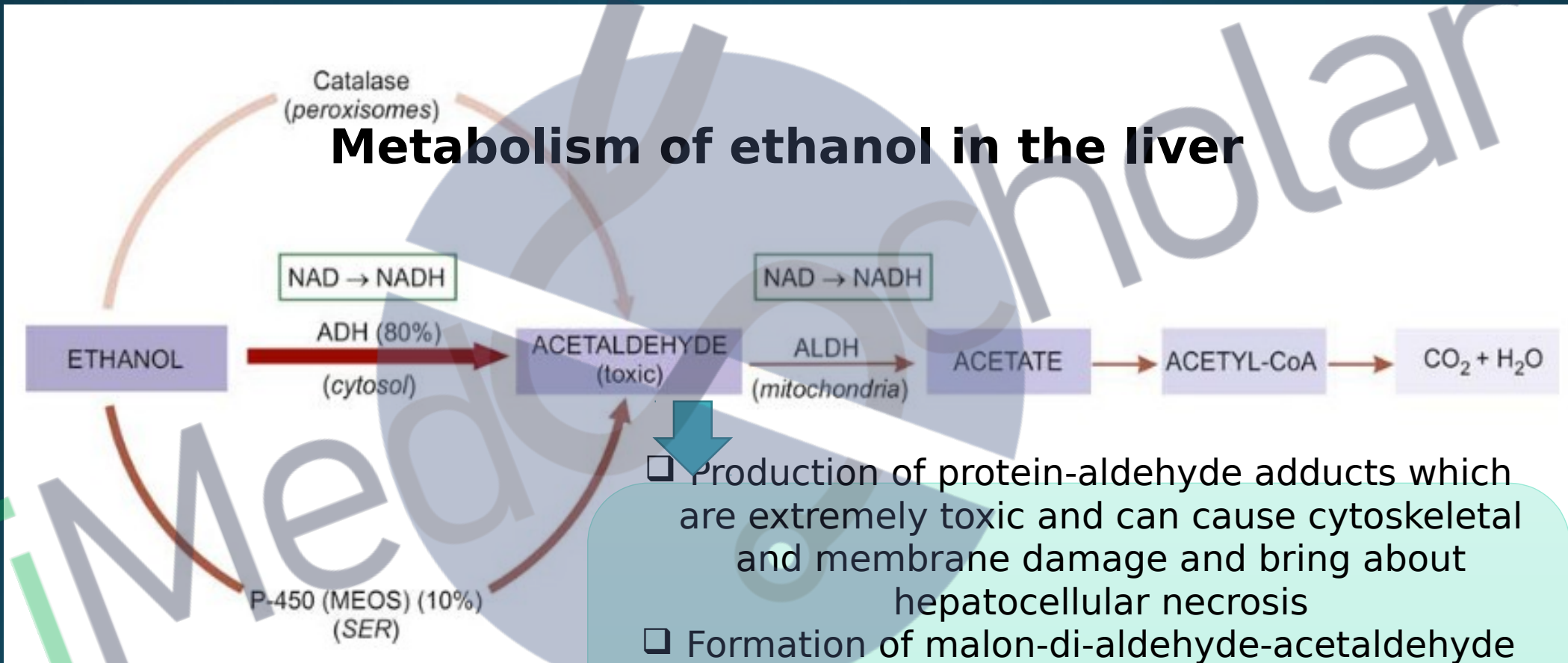
INOSITOL- it is a component of phospholipid.

METHIONINE- required for synthesis of choline.

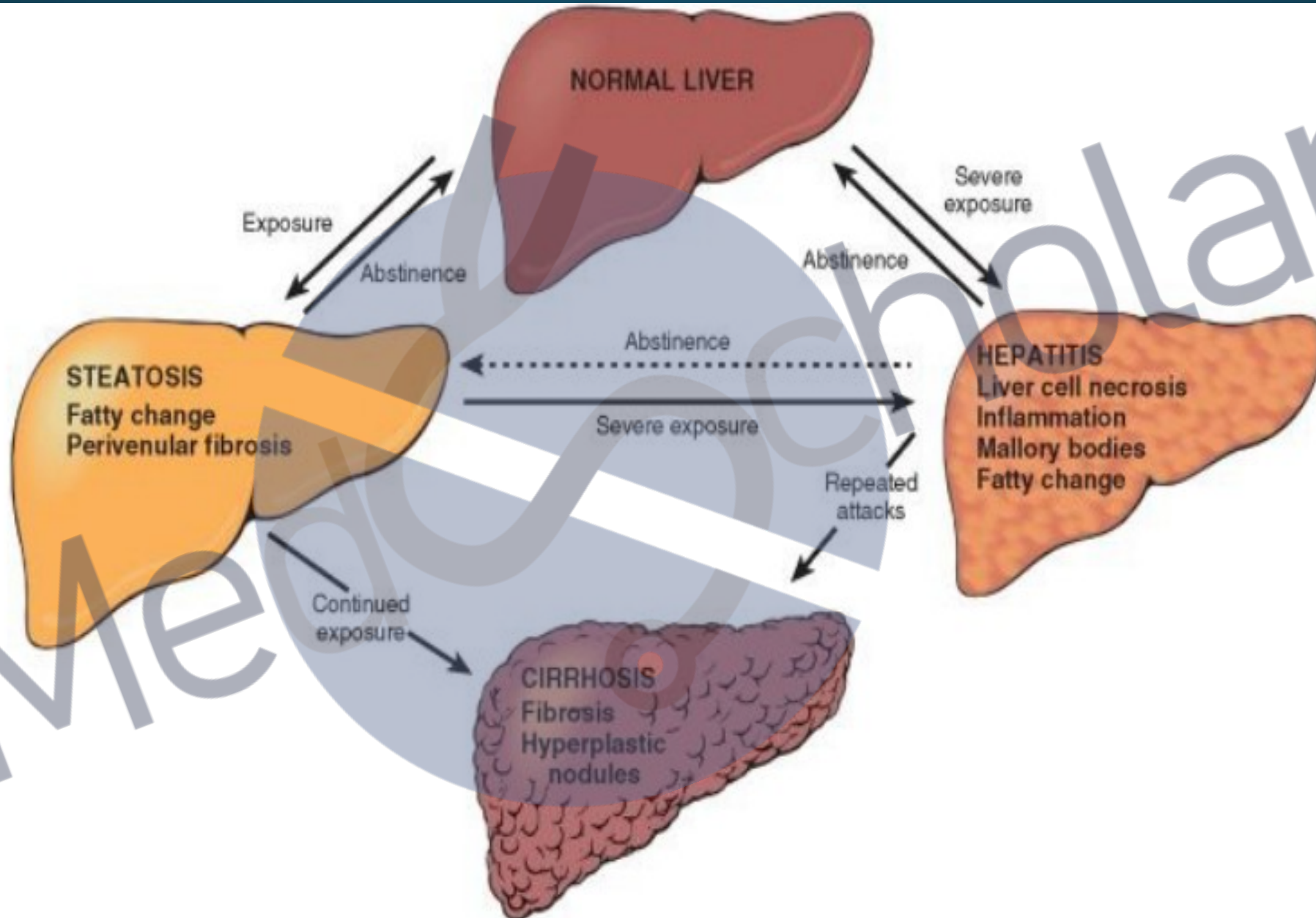
OTHER- FOLIC ACID, BETAINE, VIT B12, VIT E ,SELENIUM

ALCOHOL IN FATTY LIVER

Metabolism of ethanol in the liver



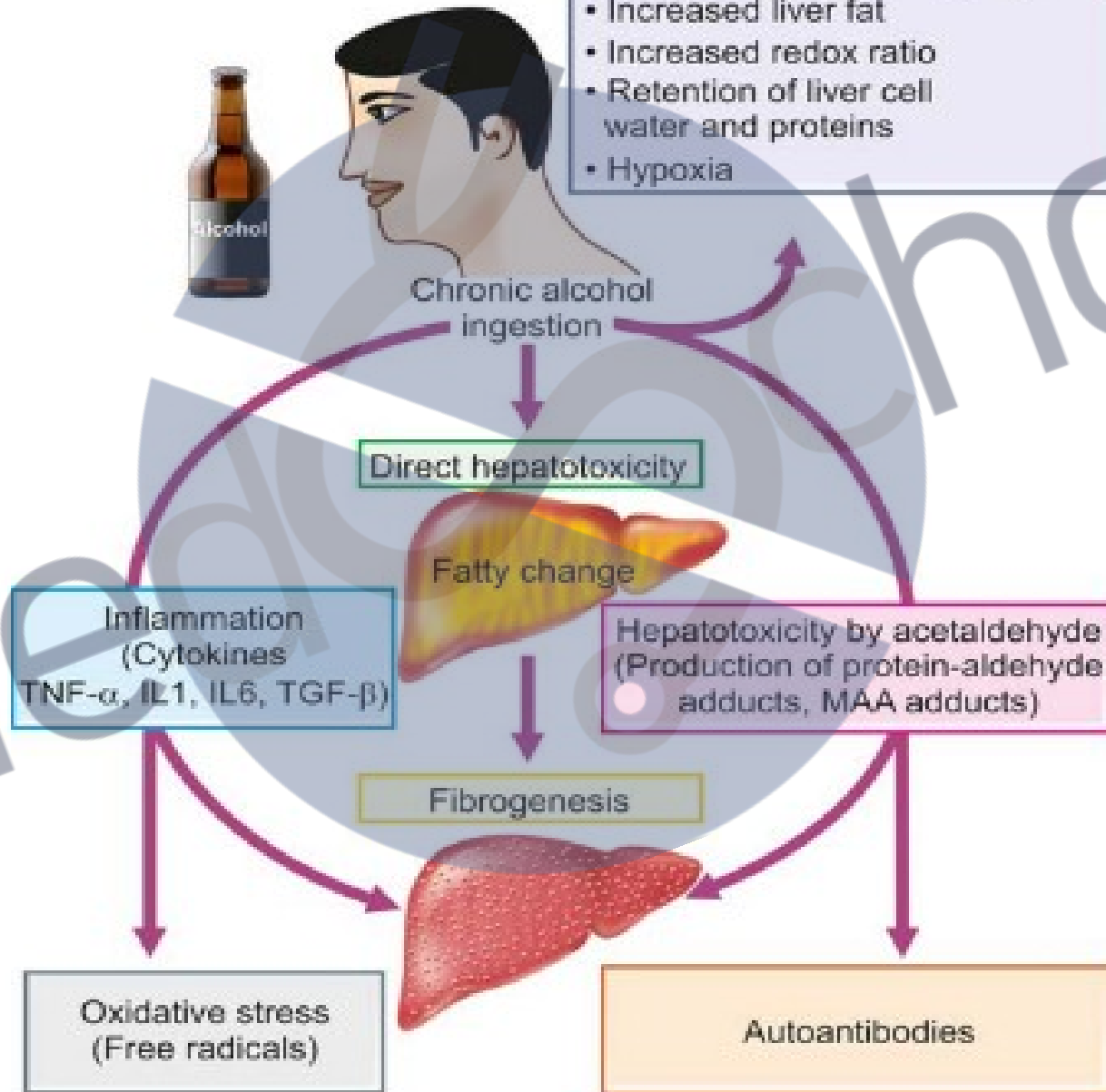
- ❑ Production of protein-aldehyde adducts which are extremely toxic and can cause cytoskeletal and membrane damage and bring about hepatocellular necrosis
- ❑ Formation of malon-di-aldehyde-acetaldehyde (MAA) adducts which produce autoantibodies and initiate autoimmune response. These adducts have also a role in hepatic fibrogenesis due to peroxisome proliferator-activated receptor (PPAR) on hepatocytes



Alcoholic liver disease

ALCOHOLIC LIVER DISEASE

- Immunological effects (Impaired CMI, Mallory's hyalin)
- Increased liver fat
- Increased redox ratio
- Retention of liver cell water and proteins
- Hypoxia



**THANK
YOU**

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