4) Alcoholic Liver Disease - Dr. Muhammad Omar

The risk of ALD increases with the amount & Duration of alcohol .consumption.

1- Fatty liver 2- Alcohol hepatitis 3- cirrhosis (micro nodular). 1 & 2 are reversible. All may be present in the same pt

Alcohol consumption quantity expressed in (ounce-years).

- Grams of Al = vol (ml) x Conc. (% Alcohol) x 0.00798.
- Fluid ounce of Alcohol = Grams of Alcohol / 29.6
- Density of pure Alcohol =0.798
- 1 unit = 8 gram

Pathology – mechanism:

- Alcohol is a hepatic enzyme (Cytochrome –P 450) inducers → ↑ oxidation.
- ALCOHOL hepatic enzyme (TNF-α) inducers → hepatic injury.
- Alcohol; ↑ NADPH (nicotine amide adenine di- nucleotide phosphate → f.a synthesis & T.G formation)
- Also Alcohol → impair release TG informs of lipoprotein → fat accumulate in hepatocyte.
- Alcohol → oxidation → acetaldehyde, NADPH → hepatotoxic
- ?? Immune mediated
- Individual variation. 40- 60-gm/ day 10- 15 yr. → Alcohol Hepatitis
- Women ↓ threshold than Men.
- Malnutrition ↓ threshold.
- Genetic factors.

Clinical & pathology

- Alcohol is almost exclusively metabolized in liver.
- Alcohol fatty liver: tender hepatomegaly- Rt hypoch. Jaundice Very rare
- Enzyme < 5* elevated
- Biopsy → diffuse or centri-lobular fat occupy most hepatocytes.

Alcohol hepatitis: is a histological diagnosis, more sever;

1. Alcohol hyaline (Mallory bodies): intracellular eosinophilic aggregation of cytokeratin.(suggestive not pathognomonic)
2. PMN infiltration.
3. Intra lobule C.T surround hepatocyte & central vein. (Spider fibrosis) & necrosis of hepatocyte.

- A symptomatic → severely ill → hepatic failure, anorexia, N&V, wt. Loss, abdominal pain.
- Hepatomegaly 80%, splenomegaly often presents.
- Fever common (pneumonia, UTI, peritonitis).
- Jaundice common (cholestasis)
- Feature of chronic liver disease (parotid enlarge, testicular atrophy, gynecomastia, spider neivi, palmer erythema).
- WBC may strikingly ↑↑.
- Transminase moderately ↑↑., almost always <400 U/L.
- AST/ ALT ratio frequently exceeds 2 (diff. from other acute hepatitis). In viral Hep. Both are ↑↑ parallel.
- PT ↑, albumin ↓, Hyperglobulinemia

Diagnosis: Hx, exam, biopsy.

Prognosis: completely reversible if stop Alcohol, if continue → cirrhosis or Hep failure

Discriminant Function (D.F) also called Maddrey Score = 4, 6 x increased P.T (sec.) + bilirubin (mg/dl)

D.F = 32 indicate sever disease and poor prognosis.

Complication: bleeding, Hepato-renal syndrome.

Poor prognosis: 1. Encephalop. 2. Spider angio. 3. Ascites 4. Renal failures 5. ↑ PT 6. bilirubin > 20

Investigation:

- Macrocytosis in absences of Anemia.
- ↑ gamma-glutamyl transpeptidase.
- Unexplained rib #.

Treatment:

- Supportive.
- Stop ALCOHOL
- High calorie & vitamin B1
- Encephalopathy: ↓ protein.
- Sever case; steroid. (Avoid in bleeding, infection, renal failure)
- Disulfiram or naltrexone
- Pentoxiphylline (an oral TNF-α antagonist); in sever hepatitis by reducing risk of renal failure

Alcoholic Cirrhosis

- Defined histologically by fibrosis & nodule regeneration.
- Micro nod.(< 3mm)
- 60% have sign or symptoms of liver disease.
- Most patients have no history of Alcohol hepatitis.
- Only 10-20 % of heavy Alcohol develops cirrhosis.
- Women more prone to cirrhosis for alcohol; this may be related to gastric mucosal level of Alcohol dehydrogenase.
- Liver Enzyme ~ Normal.
- Concomitant HCV common.

PPT factors of encephalopathy:

1. High protein intake (meal or G I bleeding) 2. Infection (SBP) 3. Dehydration 4. H. pylori

- 5 years survival to patient without Ascites, Jaundice, hematemesis & stop Alcohol ~ 90%
- 5 years survival to patient without Ascites, Jaundice, hematemesis& Continue Alcohol 34%
- Trial of polyenoylphosphatidylcholine, to block progression or reverse early Al fibrosis.
- Trial of Colchicines to reduce mortality in Al cirrhosis.
- TIPS.
- Liver Transplant.