In the name of god

Liver Diseases

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Introduction

OCC. Liver injury can be challenging to recognize ,diagnose ,and manage:

1-non specific clinical presentation

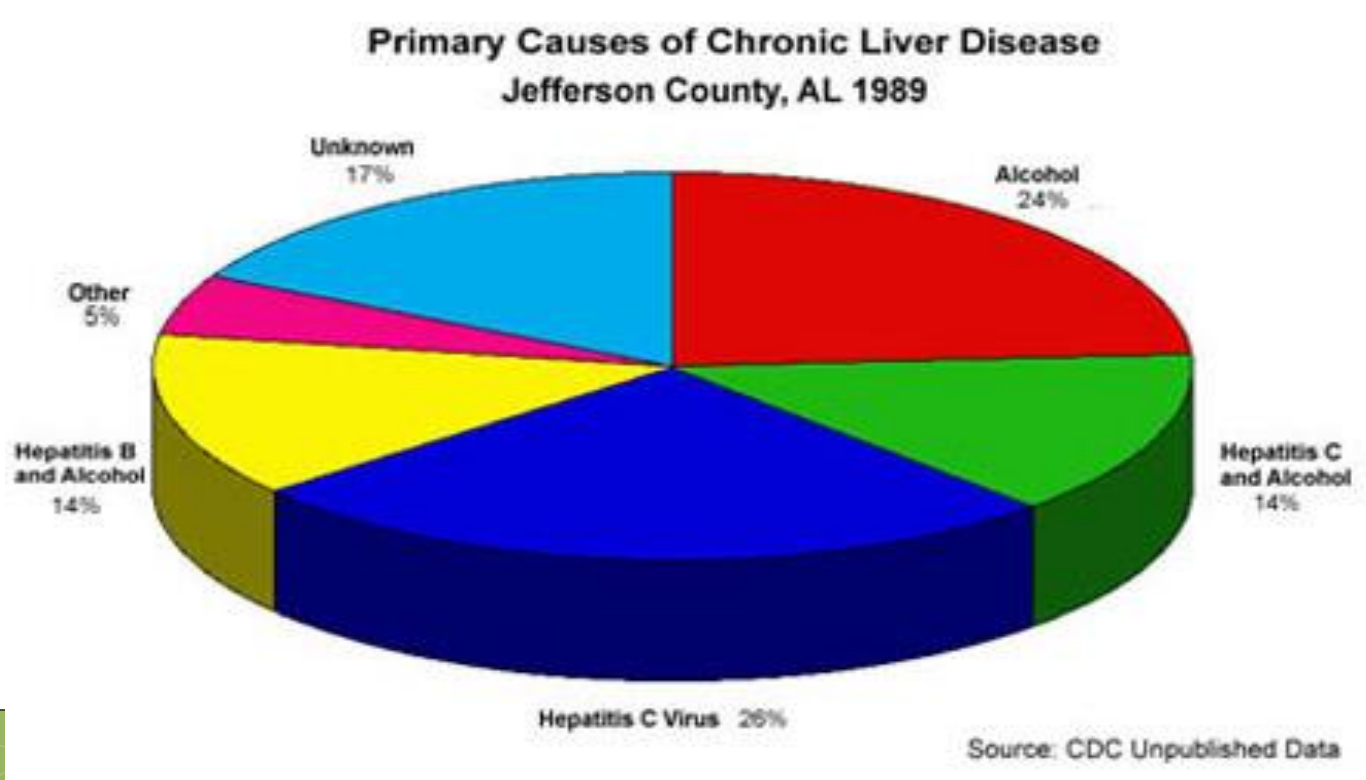
2-remain asymptomatic

Introduction

Clinical presentation , exposure history, lab and pathologic findings

Introduction

Alcohol and hepatitis viruses must be considered



Classification

Toxins : Idiosyncratic or intrinsic

Most hepatotoxins are intrinsic(direct) toxins

Few hepatotoxins are idiosyncratic :
Beryllium

Clinical history

Clinical presentation : No symptoms to acute nausea , abd pain , and jundice .

Hepatotoxins affect other organs : CNS , PNS ,kidney , and mucous membranes .

Temporal relationship between the exposure and onset of symptoms .

Physical Examination

Is not a sensitive indicator of liver disease

Lab Assessment

Most useful in the evaluation of hepatotoxicity are markers of hepatocellular necrosis : AST , ALT .

Alt is more specific for liver

Alt activity is reduced in alcohol-related liver dis. greater than 300 is uncommon .

Lab Assessment

AP (Alkaline phosphatase) and GGT (gama glutamyl transpeptidase) are induced by cholestasis

- methylnediamine

Tests for hepatic clearance

1) BSP (Sulphobromophthalein sodium test)

Irritative effects during infusion have limited its clinical utility

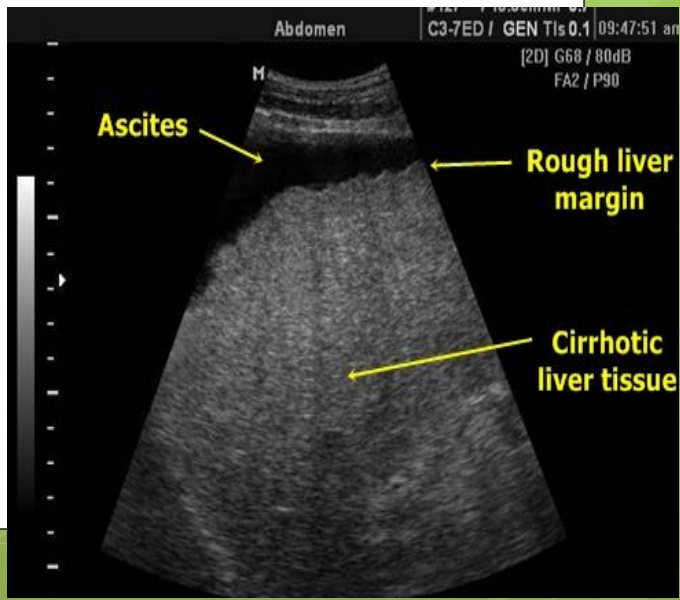
2) ICC (indocyanine green)

Is the most specific test in detecting early liver injury in workers exposed to vinyl chloride monomer

Imaging Tests

Neither ultrasound nor CT distinguishes steatosis and fibrosis with precision .

Ultrasound is preferred in the initial evaluation of biochemical abn. ,to assess biliary as well as parenchymal dis. .



Liver Biopsy

Is '' gold standard " test for Liver dis. .

Indications : Persistently elevated aminotransferases of unclear etiology ,unexplained hepatomegaly , and anatomic abnormalities .

Overview of Lab tests

AST and ALT are most helpful in the evaluation of patients with hepatocellular inj in screening exposed populations .

But they are not sensitive and spcific enough

Although liver biopsy is useful in evaluating individual cases of hepatotoxicity , it is an invasive method .

Acute Occ. And Env. Liver Disorders

Acute and subacute hepatocellular injuries are the most commonly recognized occ. Liver dis. .

Clinical , natural Hx . Presentation

Steatosis

Natural Hx of chemically induced hepatic steatosis has not been well characterized .

Acute solvent-related steatosis is gnerally associated with necrosis and elevated aminotransferases .Elevated AST & ALT generally resolve within weeks to months .

Steatosis can occur in the absence of elevated AST & ALT .

Diagnosis

Lab tests may not be helpful in diagnosing fatty liver , because they frequently don't detect steatosis in the absence of inflammation .

Sono and CT can suggest hepatic steatosis .

Definitive diagnosis : Live biopsy

Management

Further toxic exposure should be minimized and removal of the person from workplace should be considered .

Chronic Hepatocellular Injury

Diagnosis is made based on the guidelines given earlier for acute and subacute liver injury .

Resolution of enzyme elevations after removal of the person from exposure is helpful .

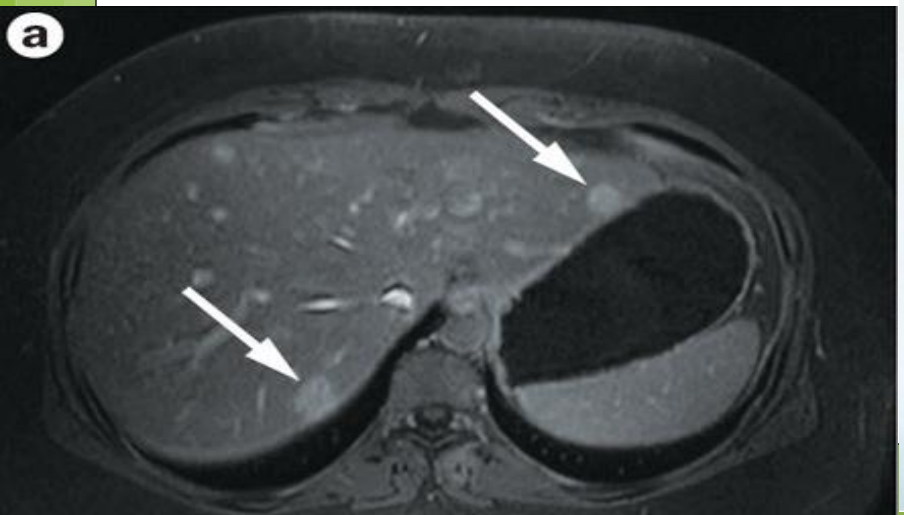
Resolve is more slowly .

Granulomatous Hepatitis

Chronic beryllium dis. , Silicosis , vineyard sprayers lung , And following mica cement exposure .

Hepatic lesions usually asymptomatic and functionally not important ,but rarely can be accompanied by hepatomegaly , necrosis , and fibrosis .

Most likely benign .



Hepatoportal sclerosis

Vinyl choloride monomer ,Inorganic arsenicals ,and thorium compounds .

Diagnosis : Consistent exposure Hx . And Liver biopsy .

Major Human Hepatotoxins

CCl4 and other chlorinated solvents .
Dimethylformamide .

Aromatic solvents .

Mixed solvents .

Halothane .

Metals (Arsenic and Lead) .

Aflatoxins .

Mushroom poisoning .

Clinical management of abnormal LFT

In acute and subacute settings :

1) Prompt removal from exposure
2) Monitoring of AST & ALT closely
3) early hepatic ultrasound
4) Hospitalization

Clinical management of abnormal LFT

In the setting of chronic low level exposure :

Removal from work "just" after rule out other Etiologies

No significant exposure, and transaminase levels between 1 and 2 times normal : Repeat tests 4 weeks later ,If (+) again further investigation is considered .

Persistent elevation of AST & ALT greater than twice normal and for over 2 month warrants further investigation ;referral to a hepatologist should be considered .


Thank you