

**DEFINITION**

1. Cirrhosis is a chronic condition involving the whole liver which results from long-continued loss of liver cells, with a persistent inflammatory reaction accompanied by fibrosis and hyperplasia. The condition is irreversible.
2. Localized scarring in the liver - eg caused by syphilitic gummas - is not included within the term cirrhosis, the latter term being reserved for changes which affect the whole liver.

**CLINICAL MANIFESTATIONS**

3. Apart from features which may be peculiar to the cause, cirrhosis results in two major events -
  - 3.1 hepatocellular failure through destruction of liver cells
  - 3.2 portal hypertension through obstruction of the portal venous system
4. In clinical terms, the disease may vary from "latent and well compensated" to "active and decompensated".
5. It may be discovered incidentally and may exist for years without marked symptoms. Primary liver cell carcinoma occurs with increasing frequency in the presence of cirrhosis and may arise before the cirrhosis is suspected.
6. Stigmata of chronic liver disease include spider naevi, erythema of the palms and soles, hepatic enlargement and, in the male, gynaecomastia and testicular atrophy.
7. Portal vein obstruction causes the formation of gastric and oesophageal varices which may produce haemorrhage.
8. In the advanced disease, failure of liver function leads to jaundice, ascites and hepatic coma.

**AETIOLOGY**

9. The causes of cirrhosis may be CONGENITAL or ACQUIRED.

**CONGENITAL**

10. There are several inborn errors of metabolism which cause cirrhosis in childhood. The cirrhosis is an integral part of the primary condition, the aetiology being that of the primary condition.

## **ACQUIRED**

### **TOXIC**

11. Alcohol is the commonest cause of cirrhosis in Western society at the present time. Alcohol and its breakdown product acetaldehyde are hepato-toxic, causing a characteristic necrosis of liver cells. This may produce episodes of acute alcoholic hepatitis or lead to more insidious liver disease. In either case, the damage may lead to cirrhosis.
12. Many other chemical substances have toxic effects on the liver but few are regarded as causing cirrhosis. Some cases have been recorded following arsenical poisoning and cirrhosis has been caused by certain therapeutic agents - eg methotrexate, isoniazid and methyl dopa.

### **INFECTIVE**

13. Cirrhosis may occur as a late sequel of certain viral infections. Type A viral hepatitis, which is the commonest type, does not cause cirrhosis. A proportion of infections with Type B or Type non-A non-B hepatitis virus may develop a chronic hepatitis which can eventually progress to cirrhosis. Yellow Fever and Infectious Mononucleosis (Glandular Fever) are also viral infections which affect the liver but they do not cause chronic hepatitis or cirrhosis.
14. Syphilis causes cirrhosis in the neonate but not in adults.
15. Schistosomiasis causes a fibrous reaction in the portal zones but does not cause cirrhosis.
16. Ulcerative Colitis may produce a chronic hepatitis which can lead on to cirrhosis.
17. Although malaria and amoebiasis frequently involve the liver, they do not cause cirrhosis.

### **DISTURBANCES OF THE IMMUNE SYSTEM**

18. Some forms of cirrhosis are regarded as being due to disturbances of immunity. Lupoid Hepatitis or Juvenile Cirrhosis mainly affects girls and young women. It is a disease affecting many organs so that, in addition to liver disease, there may be evidence of pulmonary fibrosis and/or other widespread effects.
19. Primary Biliary Cirrhosis is a non-suppurative destructive process within the intra-hepatic bile ducts which causes chronic biliary obstruction leading to a form of cirrhosis of the liver. It mainly affects middle-aged women. Although the aetiology is unknown, there are many features which suggest that the tissue injury is mediated by immunological mechanisms.

### **NUTRITIONAL**

20. It is now generally accepted that malnutrition per se is not a cause of cirrhosis in man although it may be a contributory factor and may exacerbate the effects of alcohol abuse and of viral hepatitis by predisposing the liver to damage from such agents.

21. Susceptibility to infections is a well-known feature of malnutrition and protein deficiency has been demonstrated to impair cell-mediated immune responsiveness. Malnutrition is thus an important cause of immuno-deficiency which, as is shown at paragraphs 18 & 19 above, is a possible factor in the production of some forms of cirrhosis.

### **CRYPTOGENIC**

22. Some 40% of cases of cirrhosis in the United Kingdom are classified as cryptogenic because no definite aetiological factor can be identified. It is thought to be probable that many of these are cases of alcoholic or post-viral cirrhosis in which the relevant history could not be established. The number of cases classified as cryptogenic should decrease as specific diagnostic criteria are developed.

### **MECHANICAL**

23. Unrelieved obstruction to the flow of bile from the biliary tract may lead to secondary biliary cirrhosis. The aetiology is that of the condition causing the obstruction.

### **CONCLUSION**

24. Cirrhosis of the liver is a chronic condition which is irreversible and may be progressive. Several causative factors have been established but there is a proportion of cases in which it is not possible to determine a specific cause.

### **REFERENCES**

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