

Study Of Interleukin-6 In Chronic Liver Diseases

Thesis

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The MD. Degree in Internal Medicine

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وَفَوْقَ كُلِّ ذِي عِلْمٍ عَلِيمٌ

صَدَقَ اللَّهُ الْعَظِيمُ



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Ashraf El-Sherbeny



INTRODUCTION AND Aim of work

Study Of Interleukin-6 In Chronic Liver Diseases

Introduction

Chronic liver diseases are common problems particularly in developing countries (*De Bell and Lester, 1975*).

Chronic liver diseases are defined by the continuity of clinical or biochemical evidence of hepatic dysfunction for longer than six months (*Berman et al., 1979*).

Cytokines are hormone-like proteins which coordinate differentiating cells and maintain or restore physiological homeostasis. They are essential for communication not only between liver and extrahepatic sites but also between liver cells themselves. In liver diseases, cytokines are involved in the onset of intrahepatic immune responses (e.g., during viral hepatitis) in liver regeneration (after partial hepatectomy) and cirrhotic transformation of the liver as chronic chemical injury or viral infection (*Andus et al., 1991*). The liver represents an important site of synthesis and also a major clearance for several cytokines (*Andus et al., 1991*).

Interleukin-6 (IL-6) is a cytokine with pleotropic activities that plays a central role in host defense (*Shegal, 1990 and Van Snick, 1990*).


The relation of interleukin-6 (IL-6) to chronic liver disease also was studied by *Itoh et al. (1992)*. They found a high serum level of IL-6 in a patient with chronic hepatitis B following

treatment with recombinant human alpha-interferon. One month later, when patient was treated with natural beta interferon, the serum level of IL-6 and gamma globulin increased again. The gamma globulin decreased to the pretreatment level after discontinuation of interferon therapy.

In this case hypergammagobulinemia as well as the elevated level of serum IL-6 were considered to be signs of highly enhanced humoral immunity related to alpha and beta interferon therapy.

Aim of the Work

The aim of this work is to study the serum level of interleukin-6 in patients with chronic active hepatitis B or C, in mixed infection (chronic active hepatitis and bilharzial infection), pure bilharzial liver fibrosis. Also, to study correlation between serum level of interleukin-6 in these different groups with different liver function tests.



REVIEW of LITERATURE



CHRONIC LIVER DISEASES

Chronic Liver Diseases

Chronic liver diseases are common problems, particular in developing countries. Its etiology and pathology may vary in different countries (*De Belle and Lester, 1975*).

Chronic liver diseases are defined by the continuity of clinical or biochemical evidence of hepatic dysfunction for longer than six months (*Berman et al., 1979*).

Disorders Producing Chronic Liver Diseases

(*Suchy, 1991*).

I- Genetic Disorders

- Wilson's disease
- Galactosaemia
- Glycogen storage disease III & IV
- Wolman's disease
- Hepatic porphyria
- Zellweger's syndrome
- Byler's disease
- Shwachman's syndrome
- Alpha-1 antitrypsin deficiency
- Tyrosinaemia
- Cystinosis
- Niemann Pick Disease type C
- Familial neonatal hepatitis
- Gaucher's disease
- Cystic fibrosis
- Polycystic renal disease

II. Infectious Disorders

- Hepatitis B, C, D virus
- Cytomegalovirus
- Schistosomiasis
- Liver flukes
- Syphilis

III. Vascular Disorders

- Veno-occlusive disease
- Heart failure
- Epstein anomaly
- Constrictive pericarditis
- Budd-Chiari syndrome

IV. Drugs and Toxins

- Aflatoxin
- Indian childhood cirrhosis
- Alcohol
- Irradiation
- Carbon tetrachloride

V. Hematological Disorders

- Sickle cell anaemia
- Haemochromatosis
- Leukaemia
- lymphoma
- Histiocytosis
- Myeloproliferative disease

VI. Anatomical Disorder

- Biliary atresia
- Tumours of the bile duct
- Intrahepatic biliary hyperplasia
- Choledochal cyst
- Choledocholithiasis
- Veno-caval webs

VII. Immunological Disorders

- Chronic active hepatitis
- Inflammatory bowel disease
- Primary sclerosing cholangitis
- Systemic lupus erythematosus
- Sarcoidosis
- Immuno-deficiency disease