ASSESSMENT OF ULTRASONICALLY DETECTED BRIGHT NON-CIRRHOTIC LIVER AMONG EGYPTIAN PATIENTS

THESIS

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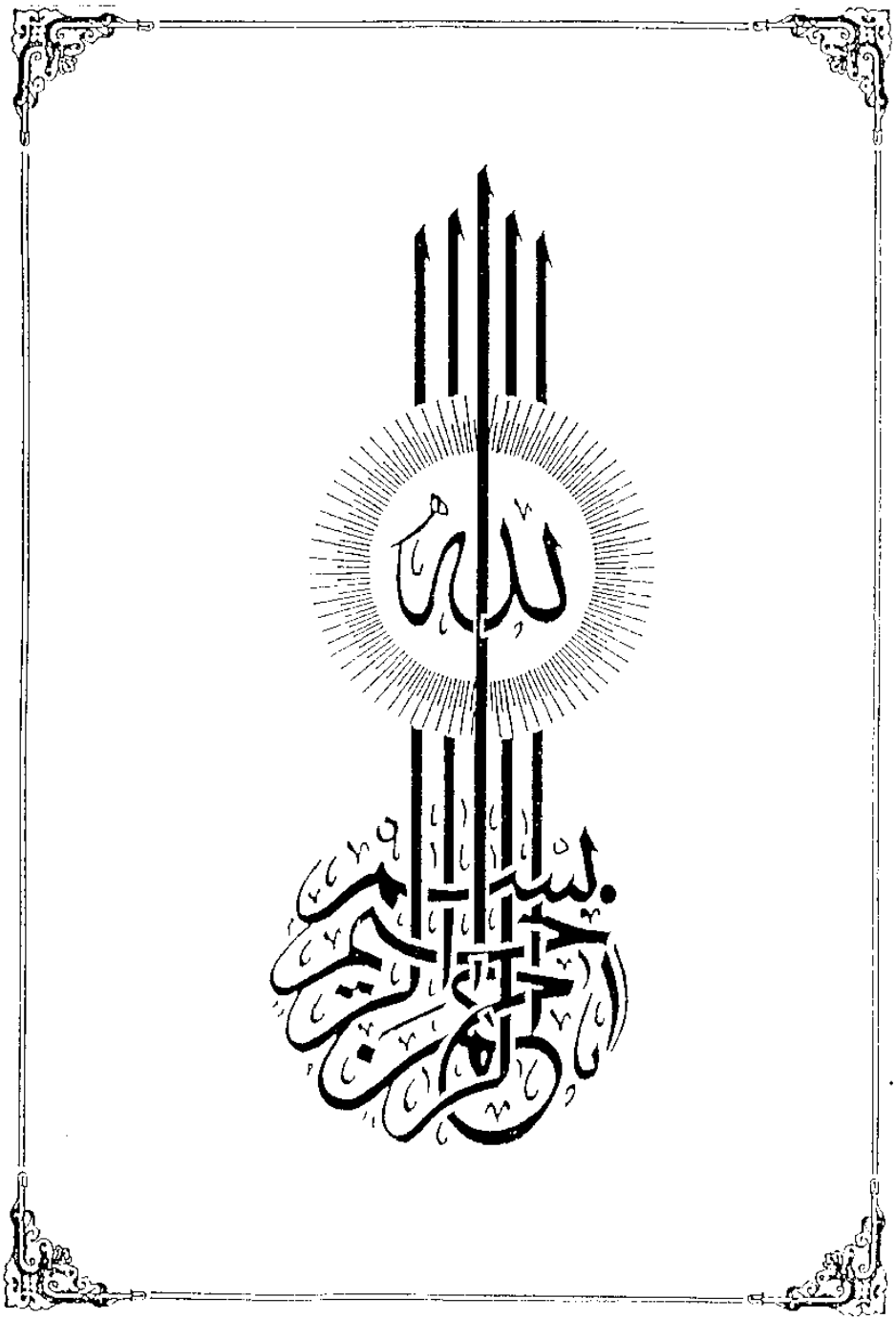
بسم الله الرحمن الرحيم

«وقل رب زدني علما»

صدق الله العظيم



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INTRODUCTION AND AIM OF THE WORK

INTRODUCTION:

Chronic liver diseases constitute a major health problem in Egypt , nowadays viral hepatitis competes with schistosomiasis as a leading cause of chronic liver diseases in Egypt and elsewhere in Middle East (El- Rooby A., 1985).

Abdominal ultrasonography has proven to be a reliable and accurate method in the diagnosis of chronic liver diseases,it has been reported to have an overall accuracy of 73% - 92% for hepatobiliary disorder (MacCarthy , et al.,1979.).
It has been also reported that sonography may detect a diffuse parenchymal abnormality with a sensitivity as high as 80% (Lewis,1984.).

Ultrasonically detected " bright liver " is a frequent finding commonly met with in patients with fatty liver , chronic hepatitis and cirrhosis , however some patients with bright liver remain undiagnosed.

It has been reported that normal liver has echogenicity greater than renal cortex , less than or equal to pancreas , less than portal vein walls (distinct portal vein walls seen) and approximately equal to splenic parenchyma.
On the other hand echogenic "bright liver " may needs greater than gain used to image diaphragm and kidneys through liver - portal and hepatic vein walls are usually less distinct from liver parenchyma - due to increased echogenicity of the liver parenchyma (M.Leon Skolnick.,1986).

Various causes of bright liver include:
cirrhosis ,chronic hepatitis ,severe long standing cardiac failure (Joseph et al., 1979).

Other causes of bright liver include:
diffuse lymphoma ,diffuse hepatocellular carcinoma ,glycogen storage diseases and haemochromatosis (Skolinck,M.L. ,1986).

AIM OF THE WORK

The aim of this work is to find out the possible aetiological causes of liver diseases which cause bright echogenicity among patients admitted to Kasr El-Aini Hospital.

REVIEW OF LITERATURE

Chronic liver diseases in Egypt

Chronic liver diseases costitute a major health problem among Egyptiens. Schistosomiasis and nowadays viral hepatitis constitute the main cause of chronic liver diseases in Egypt and elsewhere in Middle East (El-Rooby A.,1985).

I) Bilharsiasis:

Schistosomiasis is one of the main health problems in developing countries (Warren, et al.,1975).

Approximately 200 million people are infected with the disease and 500 - 600 million exposed to the threat of infection (W.H.O.,1986).

In Egypt, about 20 million individuals or nearly half of the population are infected with S.mansoni or/and S. haematobium (Abdel Wahab et al,1980).

The first comprehensive schistosomiasis survey was carried out by Scott ,1937,the aim of the survey was to obtain information about the proportion of people infected with S. heamatobium or S. mansoni in different parts of the country.He estimated that 7.15 million persons in Egypt were infected with either one or both species of schistosomes. This include 0.5 million persons infected in urban areas.The total population at that time was 15.2 million persons making the prevalence 47%.

The results of Scott , survey (1937) could be summarized as follows.

1- In the north and eastern sectors of the Nile Delta,60% of the rural population were infected with both forms of the parasite and 83% with either one or both forms.

2- In the south - central Delta , 60% were infected with S.heamatobium and 6% with S. mansoni.

3- In middle ,upper Egypt, 60% of the population were infected with S. heamatobium , in areas under perennial irrigation.

4- In those areas in upper Egypt, under basin irrigation , only 5% of the population was infected with S. heamatobium .

5- S. mansoni , had a distinct and limited geographical distribution in the Nile Delta.

In (1955), the Egyptian ministry of public health carried out a follow up to Scott . It was thus clear that both species of the parasite were still wide spread in the Nile Delta , while in the middle and upper Egypt, S. heamatobium was found uniformally throughout the areas and at a prevalence similar to that of the Nile Delta , reflecting the wide spread conversion from basin to perennial irrigation .At that time S. mansoni infection was not present in Middle or Upper Egypt.

El-Rooby and Ata ,(1964),studied 155 cases presenting with endemic hepatoslenomegaly. Liver biopsies showed that 49% of cases had evidence of schistosomiasis , 26.5% had lannec's cirrhosis, 17.4% had normal liver histology, 3.2% had fatty

changes ,2.6% had cloudy swelling , one case showed leukemia , and one case was failed . More recent reports showed progressive shift from schistosomal to non-schistosomal liver disease.

Abdel-Wahab et al .(1980) made a survey study in Kafer Tarnata ,a village in the center of Nile Delta reported a prevalence of 74% of S.mansoni and he did not find any case of S.haematobium.

A survey in the northern part of the Delta was done by **Barakat et al.(1982)**, amongest children 6-12 years of age to asses the present status of schistosomal infection . Comparing the results obtained with those of a previous study performed in 1976 ,they found that the prevelance of S.haematobium showed an evident decrease from 50.4% to 10% while S.mansoni did not show any appreciable change (61.9% and 63.1% in years 1976 and 1980 respectively).

Abdel-Wahab (1982) explained the effect of the High Dam on the epidemiology of schistosomiasis . Before the era of the High Dam ,there was no exposure to infection during the period of the flood and ,consequently ,no transmission during that period .Now exposure is all year around .The marked change in water level during the flood season ,which in the past was detrimental to the breeding places of the snails ,no longer occurs .Water will be clear ,since the suspended silt particles will be deposited in

the lake south of Aswan.This clear water will allow day light to reach the algae and aquatic vegetations that supply the snails with food and shelter.Other important ecological changes are the slowness of the water current and increase in aquatic weeds ,particularly in the north of the Nile Delta .There will be no winter closures ,when irrigation channels are dried and cleared of silt and snails .The habitat of the snails will no longer be disturbed by removing the silt.Water available for irrigation will be abundant ,thus ,encouraging its use .Underground water level will increase, swamps will develop, encouraging snail growth.

Abdel-Wahab et al .(1993 a&b) studied the prevalence of schistosomiasis in Fayoum and Menoufeya governorate and they reported that the general prevalence of S.haematobium and S.mansoni infection in Fayoum governorate was 13% and 4.3% while in Menoufeya governorate the overall prevalence was 32.5% and 1.1% respectively.

In Assuit governorate **Hammam et al .(1993a)** reported that the prevalence of S.haematobium was 5.2% while that of S.mansoni was 0.4%.

Hammam et al .(1993b) studied 44 villages in Qena governorate and stated that the prevalence of S.haematobium infection was 5.4% while S.mansoni was 0.5%.

In Minia governorate the overall mean prevalence of S.haematobium was 8.9% and 1% for S.mansoni (Abou El-Enien et al.,1993).

It is accepted that the pathogenesis of hepatic schistosomiasis resulted from the granulomatous lesions and fibrosis produced by the deposits of schistosomes in the liver, this form the basis of this disease in man (Kamel et al.,1978).

Warren et al.(1967) suggested that the schistosoma egg granuloma is essentially a cell-mediated type of immunological response,as a manifestation of delayed hypersensetivity.

Cheever (1961) described obliteration of small portal vein branches,together with narrowing and distortion of the larger ones by adjacent granuloma.The obstruction was anatomically presinusoidal and it seemed adequate to cause the portal hypertension.

Warren,(1972)stated that no significant degree of obstruction occured until the formation of large avascular granuloma,which completely shut off portal flow.Marked obstruction to portal venous flow resulted in portal hypertension,congestive splenomegaly and the development of porto-systemic collateral circulation,as examplified by the development of oesophageal varices.