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VIRAL HEPATITIS IN EGYPT

by

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## Viral Hepatitis

Studies to determine the prevalence of Hepatitis B surface antigen (HBs Ag) and its antibody in different diseases were carried out. These diseases were:

1. Bilharziasis
2. Nephropathies
3. Cases of Jaundice
4. Diabetics
5. Chronic Haemolytic Anemia
6. Cases of Chronic Liver Diseases
7. Surveillance of Contacts of Acute Cases

The first five studies were the subjects of a master degree in medicine, and the last two subjects were the subject of thesis for M.D.

The results of each study will be summarized as follows:

1. Prevalence of HBs Ag among Cases of Bilharziasis:

Table (1)

Frequency of HBs Ag in Schistosomal Cases Versus Controls

Group	No. Examined	No. Positive	Percentage
Schistosomal	400	43	10.8
Control	5187	188	3.6

Table (2)

Frequency of HBs Ag in different Age Groups in Schistosomal Cases Versus Normal Controls

Age Group in Years	Schistosomal			Controls		
	No. Exam.	No. Pos.+	Perc. %	No. Exam.	No. Pos.+	Perc. %
20	72	4	5.6	2092	87	4.2
20 - 39	179	27	15.1	1588	56	3.5
40	147	12	8.2	1504	45	3.0
Total	400	43	10.8	5187	188	3.6

Table (3)

Frequency of HBs Ag in relation to Schistosomal Activity

Groups	No. Examined	No. Positive	Percentage
Sch. Haematobium	124	5	4
Sch. Mansoni	106	16	15.1
Mixed	88	9	10.2
Total Active	318	30	9.4
Total Inactive	82	13	15.9

Table (4)

Frequency of HBs Ag in the Various Stages of Schistosomiasis

Groups	No. Examined	No. Positive	Percentage
Simple	298	12	4
Hepato-splenic	65	13	20
Ascitic	37	18	48.7
Total	400	43	10.8

Table (5)

Prevalence of HBs Ag among Male and Female Cases of Bilharziasis

According to Sex Bilharzial				Control		
Sex	No. Tested	No. +ve HBs Ag	%	No. Tested	No. +ve HBs Ag	%
Male	307	36	11.7	2961	102	4.1
Female	93	7	7.5	2726	86	3.2

II. Prevalence of HBs Ag in Nephropathies

132 patients with different kidney diseases were studied. 23 were positive for HBs Ag representing 17.4%. The following tables represent the percentage positive HBs Ag according to the cause of the diseases to sex and to age.

Table (6)

Prevalence of HBs Ag in Patients with different Renal Syndromes

Disease	No. Exam.	%+ve
	No. +ve	
Renal Disease	6/2	33.3
Acute Glomerulonephritis	54/13	24.1
Chronic Renal Failure	30/5	16.7
Chronic Pyelonephritis	18/2	11.1
Nephrotic Syndrome	24/1	4.2
Obstructive Uropathy (Hydronephrotis)	132/23	17.4

Table (7)

HBs Ag Incidence among Males and Females in Renal Syndromes

Sex	No. Examined	No. Positive	Percentage
Male	103	19	18.4
Female	29	4	13.7

Table (8)

HBs Ag among Patients with Renal Diseases According to Age

Age	No. Examined	No. Positive	Percentage
20 years	18	5	27.8
20 - 50 years	93	15	16.1
50 years	21	3	14.3

### III. Prevalence of HBs Ag in Cases of Jaundice

Ninty patients complaining from different types of jaundice were studied for the presence of HBs Ag. 60 patients had jaundice developed as an acute stage of viral hepatitis. The other thirty patients developed jaundice due to the other cause than viral hepatitis as governed from clinical and back history investigations.

The results of this investigation is summarized in the following table:

Table (9)

Prevalence of HBs Ag in Cases of Jaundice

Cause of Jaundice	No. of Cases Studies	SGOT in L	ALK Phos King Armstrong 100/ml	Total Bilirub. mg/100 ml	Director Bilir. in mg/mg/100. ml	HBs Ag No.+ve	%
Viral Hepatitis	60	287.7	13.3	12.4	8.8	19	31.6
Hepatocellular Failure	9	77.2	9.9	3.4	1.7	3	33.3
Extrahepatic Biliary Obstruction	9	73.5	28.5	14.5	12.5	1	11.1
Haemolytic Jaundice	7	36.0	8.6	5.5	1.6	2	28.6
Malignant Jaundice	1	75.0	30.0	23.0	21.0	-	-
Drug Induced Jaundice	1	50.0	15.0	3.5	3.0	-	-
Hereditary Hyper Bilirubin Emla	1	15.0	5.0	2.0	0.3	-	-
Undetermined Aetiology (Amaebic Hepatitis)	2	30.0	10.0	3.0	2.3	1	50.0

IV. 140 patients were studied, for HBs Ag. Ten of them proved to be HBs Ag positive indicating 7% positives.

This study was carried by the enzyme sorbent assay (Elisa) and passive haemagglutination as kits for Radio Immuno assay was not available at the time of study.

Further work is to be carried on these patients especially study of the anti HBs, as the diabetics are known to be low resistant patients, and they are able to have complexes of antigen and antibodies circulating at the same time in their sera. This have to be further investigated.

V. Study of Prevalence of Hepatitis B Surface Antigen and Antibody in Sera of Patients with Chronic Haemolytic Anaemia

Thirty eight patients age from few months to 12 years old were studied for HBs Ag and anti HBs. The results are summarized in the following three tables:

Table (10)

HBs Ag in Chronic Haemolytic Anaemias

No. of Patients According to Age	No. of HBs Ag +ve	%	No. of +ve Anti HBs	%	
2 to 2	15	3	20	6	40
from 2 - 6 years	14	0	-	9	64
from 6 - 12 years	9	0	-	8	88.9

Table (11)

Distribution of +ve HBs Ag and Antibody According to No. of Transfusion in Chronic Haemolytic Anaemias

No. of Transfusion	No. of Patients	HBs Ag +ve	%	No. of +ve Anti HBs	%
From 2 - 5	8	2	25	3	37.5
5 - 10	15	1	6.7	7	46.7
10 Transfusion	15	0	-	13	86.7

VI. Study of HBs Ag and Antibodies in Cases of Chronic Liver Diseases

In this study 41 patients were studied for prevalence of HBs Ag and antibody. The result was summarized in table 12;

Table (12)

HBs Ag in Chronic Liver Diseases

Liver Pathology	NO, Tested	No. +ve HBs Ag and %		No. Tested	The Anti HBs & %	
Bilharzial Fibrosis	18	8	44	18	8	38
Chronic Active Hepatitis	13	11	85	13	11	79
Chronic Persistent Hepatitis	6	5	83	7	5	71
Cirrhosis	4	2	50	6	3	50

VII. Surveillance of Contacts of Acute Cases of Hepatitis B Surface Antigens for the Prevalence of HBs Ag and Antibody

400 acute viral hepatitis patients from Imbaba Hospital were studied for the presence of HBs Ag and antibody, 330 patients of the 400 were chosen according to the availability of their residences in Cairo and the neighbour suburbs, The contacts of these patients were investigated for the presence of HBs Ag and antibody.

The results are shown in the following table:

Table (13)

HBs Ag in Contacts of Acute Cases of Hepatitis B Virus

Category of Contacts	No.	No. HBs Ag +ve	%	No. of +ve Anti HBs	%	No. of HBs Ag & Anti HBs	%
Parents	178	20	11.2	107	44.2	51	60.1
Spouse	158	8	5.1	88	48.1	62	55.7
Offspring	173	24	13.9	51	22.7	98	29.5
Siblings	183	22	12.0	81	38.5	80	44.3
Others	55	5	9.1	31	52.5	19	56.4

STUDY OF VIRAL HEPATITIS IN EGYPT IN INFANTS AND  
CHILDREN

A Study on Hepatitis B. virus in liver affections among Egyptian infants and children was carried out in 1982.

535 subjects were studied for HBs Ag and the anti HBs using RIA technique. 230 were females and 305 were males. The ages ranged from birth to 15 years. The results are summarized in the following table:

Table (14)

HBs Ag among Children from Birth to 15 Years Old

Age Group	No. Studied	HBs Ag Positive	Anti HBs Positive
Cord Blood	24	8.33	45.8
Neonatal	63	7.95	31.7
1 - 6 M	28	7.14	21.43
6 M - 2 Y	93	6.45	22.58
2 Y - 5 Y	157	13.37	24.84
5 Y - 12 Y	140	12.85	35.0
Over 12 Y	30	3.3	40.0
T O T A L	535	10.09	29.53

Maximum HBs Ag percentage was found in the age group from 2 to 5 years (13.37%) decreasing afterwards, whereas the percentage antibody positive increases to 40%.



Post Transfusion of Hepatitis Study

Post transfusion HBs AB 1811 samples of blood taken from 184 patients with cardiac surgery and had more than one blood transfusion (5 to 10 transfusions) as well as 676 blood samples from patients after receiving blood derivatives after the operation were examined by RIA to HBs Ag and HBs AB.

The percentage positive anti HBs from patients specimens was 59.64%.

The percentage positive HBs Ag from patients specimens was 0.52%.

The percentage positive anti HBs from blood of patients received blood was 82.39%.

The percentage positive HBs Ag from blood of patients received derivatives was 0.14%.

## Liver Pathology

A series of 32 liver biopsy were taken from apparently normal patients who were admitted for surgery.

During the abdominal operation a wedge biopay from the liver of each were taken. At the same time a blood sample from each person were taken and tested for HBs Ag and HBs Ab.

### Results:

1. 9 out of the 32 were positive and HBs Ag by ELISA technique.
2. 24 out of the 32 were positive to HBs Ab.

The pathological findings were very alarming and not expected:

- |  |   |
|--|---|
| - Chronic Hepatitis                              | 4 |
| - Chronic active hepatitis with bilharzial liver | 6 |
| - Chronic non specific hepatitis                 | 4 |
| - Fatty degeneration                             | 1 |

All the 6 patients which showed positive HBs Ag showed either chronic active hepatitis or chronic active hepatitis with bilharziasis.

This preliminary report showed clearly the importance of liver diseases in area and more elaborates studies needed. It also showed the necessity for examining the blood of patients before surgery to HBs Ag as well as to liver functions at least enzyme assay.

Also it showed the importance protection of surgeons, in our area by vaccination to protect them from infection.