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STATUS OF HEPATITIS B & C IN PATIENTS WITH THALASSEMIA MAJOR

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ABSTRACT:

OBJECTIVE: *To evaluate the Hepatitis B and C status of Thalessemia patients.*
STUDY DESIGN: *It is cross-sectional study.*
SITE OF STUDY: *The study was conducted in Thalaseemia centre, at Civil Hospital Karachi.*
DURATION OF STUDY: *This study was conducted from June 2006 to December 2006.*
PATIENTS AND METHODS: *100 cases of Thalessmia who presented at the Thalassmia centre, Civil Hospital Karachi, during the period of study were screened for Hepatitis B and C. They were selected irrespective of age, sex, duration of disease and number of transfusion previously received.*
RESULTS: *66(66%) of patients were male and 34(34%) were female. Of these 29(29%) of patients were seropositive for anti-HCV and 8(8%) for HBsAg.*
CONCLUSION: *Hepatitis B and C were found to be common among the patients of Thalaseemia major who are receiving regular blood transfusion.*

KEYWORDS: Thalaseemia major, hepatitis B, hepatitis C

INTRODUCTION:

Thalaseemia is among the most common genetic disorders.[1] The Thalaseemia occur at some of their highest frequencies in the developing countries particularly those of Asia.[2]

Globin variants are present in 4.83% of population , including 1.67% of the population who are heterozygous for alpha-thalassemia and beta-thalassemia.[3] Birth rate of people who are homozygous or compound heterozygous for symptomatic thalassemia is 0.44%. [3] Beta Thalessmia is a congenital anemia for which there is a presently no curative therapy other than allogenic haemapoietic stem cell transplantation. This therapeutic option is, however, is not available to majority of patients. [4] In Pakistan blood transfusion is the major treatment option. Though regular blood transfusion improves the overall survival of patients with beta-thalassemia, it carries a definite risk of infection with blood borne viruses [5,12] and other complication like secondary hemochromtosis, liver failure and renal failure. Infections are major complication and constitute the second most common cause of mortality & morbidity.[1] Transfusion dependent children are most prone to acquiring various transfusion transmitted infection, such as hepatitis B and hepatitis C and other [6-8]. Since the magnitude of these infections among Thalaseemia children in Pakistan is not well known, for that reason this study was conducted to assess the prevalence of infection among them.

PATIENTS AND METHODS:

It is a cross-sectional study. The study was carried out on known cases of thalessemia who are registered at the thalassemia center at Civil Hospital Karachi, and were administered blood transfusions from June 2006 till December 2006. A total of 100 patients were included in the study. They were selected irrespective of age, sex, duration of disease and number of transfusion previously received.

The data was collected on a structured questionnaire containing variables like age, sex, date of diagnosis, date of first blood transfusion, total number of transfusion received, date of performing serological test and the results of anti-HCV and HBsAg. The cases were screened for HBsAg and Anti-HCV by using ELISA. We used patient's serum for it.

RESULTS:

We studied 100 patients of thalassemia who were registered at the thalassemia centre at Civil Hospital Karachi and came for blood transfusion. 66% of patients were male and 34% were female. The age of patients was ranged from 1 to 16 years. The mean age was 5.29 yrs SD+/- 3.55. of these 100 cases, 29(29%) of the patients were seropositive for anti-HCV out of which 21 were male and 8 were female and 8(8%) were seropositive for HBsAg out of which 5 were male and 3 were female as shown in fig 1, table 1.

Fig. No.1
FREQUENCY OF HEPATITIS B& C IN PATIENTS WITH THALESSEMIA MAJOR

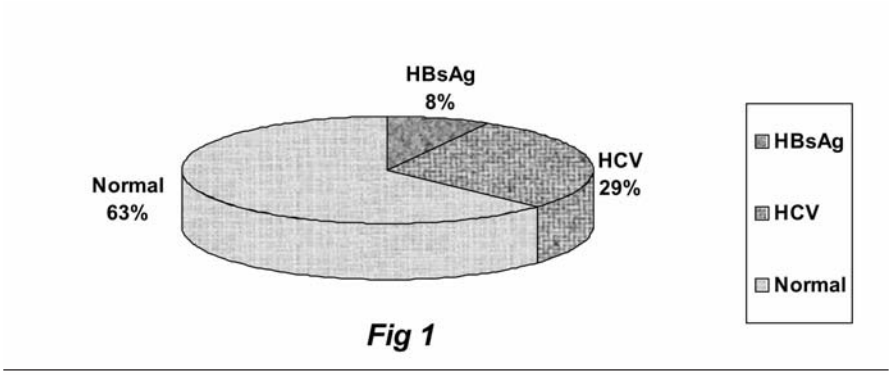


Fig 1

TABLE NO.1
FREQUENCY OF HEPATITIS B & HEPATITIS C IN MALE & FEMALE

	Hepatitis B	Hepatitis C	Negative	Total
Male	5	21	40	66
Female	3	8	23	34

Table 1 – summary of results

DISCUSSION:

Thalaseemia is an inherited form of Hemolytic anemia [9] and one of the most common in our society. The main stay of treatment is repeated blood transfusion. Repeated transfusion is associated with an increased risk of blood born viral infection like hepatitis B virus and hepatitis C virus [10, 11]. Hepatitis B and C are major global health problems and repeated blood transfusion is a major risk factor as evident from national and international studies.

In our study of 100 subjects 29 were found to be positive for hepatitis C and 8 were found positive for hepatitis B. A similar study conducted in India on 40 multi-transfused Thalaseemia patients with no clinical or biochemical evidence of liver disease but they have serology positive.

HBsAg were present in 18(45%), ant hepatitis C virus (HCV) in 7 (17.5%), [5]. In contrast to our study hepatitis B positive patients was higher then hepatitis C, the reason for this is screening for hepatitis C was started later in Pakistan and also this reflects that combined prevalence of hepatitis B and hepatitis C in Thalaseemia patients is higher in Indian population then in our study.

A study conducted on 399 patients in Malaysia showed 3 were HBsAg positive (0.75%), 18 were anti-HCV positive (4.5%), and none was anti-HIV [6] an other study from Iran showed prevalence of anti-HCV positive was 19.3% and HBs Ag postivity in 1.5% [12]so the over all prevalence of hepatitis B and hepatitis C is much lower then our study. Regular screening of blood for common infection and emphasis on vaccination is most likely reason.

To assess and compare the prevalence of hepatitis B and C in normal population a total 757 subjects were screened in Lahore. Prevalence of HBsAg was 2.6% and Anti HCV 13.5%.[7] comparing the results to our study shows that prevalence of both hepatitis B and hepatitis C is much higher in patients with Thalaseemia dependent on blood transfusion.

Therefore we suggest blood should be properly screened for transmissible disease. General public and patient awareness regarding healthy screened blood should be created at the level of general population by holding seminars at community levels and, proper media campaigning and Hepatitis B vaccination. A prospective, multicenter study to estimate such risks more precisely is needed.

CONCLUSION:

Hepatitis B and Hepatitis C was found to be common in Thalaseemia patients.

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