

ORIGINAL ARTICLE

Characteristics and Frequency of Hepatitis C among Children with B-Thalassemia Visiting Tertiary Care Hospital

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ABSTRACT

Aim: To find the characteristics and frequency of hepatitis C among children with β -Thalassemia.

Methodology: It was a cross sectional type of study conducted in tertiary care hospital of Bahawalpur for a period of 6 months from January 2021 to June 2021. Sample size was 51 patients. Patients suffering from β -Thalassemia and were undergoing blood transfusions in large amounts were included.

Results: β -Thalassemia is more common in Males (67%) than females (33%) with most of the cases detected in the patients who were living in rural areas (61%). Moreover, with the increase in number of transfusions the threat of HCV increases.

Conclusion: Blood transfusion is a lifesaving intervention. There is a need to pay an immediate attention towards the bio safety practice in both the public and private sector blood banks. There must be strict rules and regulations for safe blood transfusions in Pakistan.

Keywords: Thalassemia; HCV; Blood transfusion; HB electrophoresis

INTRODUCTION

Thalassemia syndromes are heterogeneous group of disorders caused by inherited mutations that decrease the synthesis of adult hemoglobin, HbA. People having both mutated genes are said to be suffering from Thalassemia Major.^{1,2} Thalassaemia is the most prevalent inherited blood disorder in the world. The prevalence of Thalassaemia is 5% in Pakistan. All the patients of thalassaemia major need blood transfusions for their survival. Multiple transfused patients represent a major risk group for hepatitis C acquirement.^{4,5} There is high prevalence in Pathans (7.9%) as compared to Punjabis (3.3%). Indian Punjab has 3.5%, Saudi Arabia 3.4% and Hong Kong 3.4%. In Bahawalpur, thalassemias are increasing day by day. Regular blood transfusion in patients of Thalassemia Major has improved their overall survival but carries a definite risk of blood borne infections including HCV⁶.

The objective of the study was to find the characteristics and frequency of hepatitis C among children with β -Thalassemia.

METHODOLOGY

It was cross sectional analytical study conducted in BVH, Bahawalpur from January 2021 to June 2021 after obtaining approval from institutional ethical review committee. All the patients of β -thalassemia patients undergoing regular blood transfusions were included in the study. Informed consent was taken from parents/guardian of each child before data collection. Individual patient data regarding age and gender, age at the time of β -

thalassemia diagnosis, consanguinity, hepatitis C infection positive or negative, frequency of blood transfusions was recorded on preformed questionnaire. Data was analyzed by SPSS version 22.

RESULTS

The detail of results is given in tables 1,2,3,4,5,6.

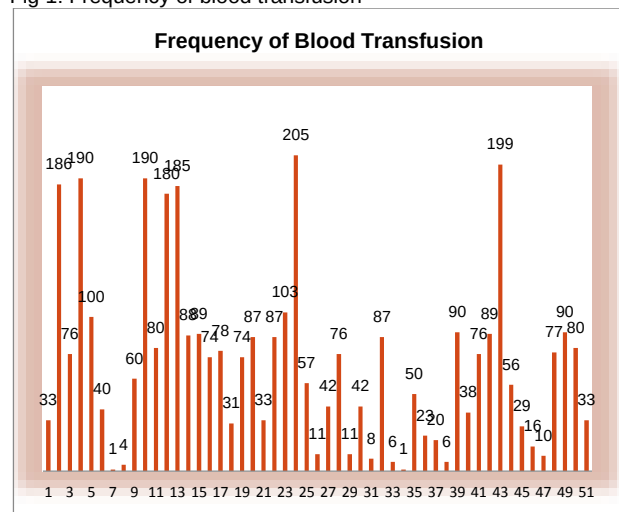
Table 1: Gender distribution

Gender	Male	Female	Total
n	34 (67%)	17 (33%)	51(100%)

Table 2: Frequency of HCV

Category	HCV (+ve)	HCV (-ve)	Total
n	16	35	51

Fig 1: Frequency of blood transfusion



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Table 3: Gender distribution and HCV status

HCV	Gender		
	Male	Female	Total
Positive	12	4	16
Negative	22	13	35

Table 4: Sample distribution according to areas

Category	Urban	Rural	Total
n	20	31	51

Table 5: Age distribution

Category	Age			Total
	1-5 Years	6-10 Years	11 and more	
n	22	24	5	51
%age	43.1	47.1	9.8	100

Table 6: Blood Transfusion and HCV

HCV	Blood Transfusion			Total
	1-10 time	11-20 time	21 and onward	
Positive	0	1	15	16
Negative	7	3	25	35
Total	7	4	40	51

DISCUSSION

In current study, the total number of patients of β -Thalassemia was 51, out of which 34(67%) were Males which is significantly higher than Females 17 (33%). In comparison, a study done in Iran showed the same result of Male population being (56.4%) and Female being (43.6%)¹⁴. In present study, the frequency of HCV was (31%) among β -Thalassemia patients while the prevalence of HCV among β -Thalassemia patients was previously reported as (30%) which is comparable to our study⁷.

In recent study, the frequency of HCV in Thalassemia patients was positive in Males (35%) and negative in Males (64%) while it was positive in Females (23%) and negative in Females (76%) showing more Males positive than the Females. In comparison to the previous study which was done Cairo, HCV was positive in Males (57.4%) and negative in Males (56.4%) while it was positive in Females (42%) and negative in Females (43%).

Current results indicate that prevalence of β -Thalassemia in Rural areas is (61%) and among Urban

population it is (39%). It is in contrast to a previous study which was also done in Faisalabad in which the prevalence of β -Thalassemia in Rural areas was (19%) which is significantly lower than the prevalence in urban areas (80%).

In present study, it was seen that β -Thalassemia is most common in children of 3-5 years of age (30%) while in a study done in Faisalabad previously it was more common in children of 1-5 years of age (34%). In another study which was done by B. Cacopardo and his colleagues in Egypt, β -Thalassemia was more common in people of age 16-20 years. The results of later study³ go in contrast to our study. According to our study, the frequency of HCV increases up to 31% with the increase in number of blood transfusions. Study carried out in North Iran also showed that with the increase in number of blood transfusions the incidence of acquiring HCV becomes (0.5%) more which is comparable to our results⁸.

CONCLUSIONS

The frequency of β -Thalassemia is more in males than females and more prevalent in rural areas than urban areas. The frequency of HCV infection increases with the increase in blood transfusions.

Conflict of interest: Nil

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