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Clinical Profile of Haemophilia Patients in Jammu Region

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Abstract: Haemophilia is a group of related inherited bleeding disorders that include abnormalities of coagulation factors and platelet function and is a hereditary X-linked coagulation disorder caused by deficiency or reduced activity of Factor VIII in Haemophilia A or Factor IX in Haemophilia B. To assess the clinical profile of haemophilia patients in our region. The present study was conducted in Hematology section of Postgraduate Department of Pathology, Government Medical College Jammu. Patients of all age groups who were registered at comphrensive hemophilia care centre, Govt. medical college Jammu were included in the study for a period of one year from October 2014 to September 2015. It was a prospective study**.** In the present study, out of 70 cases, majority of the patients 57 (81.43%) belonged to haemophilia A (FVIII deficiency) followed by 12 (17.14%) patients of haemophilia B (FIX deficiency) and 1(1.43%) patient showed deficiency of both (FVIII/IX deficiency).Majority of the patients were of severe haemophilia, followed by moderate and mild haemophilia . Out of 70 cases, 58.58% were associated with positive family history of haemophilia .Majority of the patients (31.43%) were in the age range of 11 to 20 years followed by 25.71% patients seen in age group 21-30 years. In most of the haemophilia patients (52.86%), age of manifestation of symptoms was seen in 1-5years of age group. Most common clinical presentation was found to be hemarthosis (68.57%) followed by muscle and subcutaneous hematomas (45.71%). knee joint (61.43%) was the predominantly effected joint in haemophilia followed by elbow joint (41.43%). Haemophilias are distributed worldwide and have heterogenous presentation depending upon disease severity. Knowledge of the spectrum of presentation of haemophilia in the local population helps in early diagnosis and management planning.
Keywords: Hemophilia, Haemarthrosis, Hemophilia A, Hemophilia B.

INTRODUCTION

Hemophilia is derived from a Greek word "Haima"means Blood and "Philia" meaning Affection; thus it is a blood related disorder. Haemophilia is a group of related inherited bleeding disorders that include abnormalities of coagulation factors and platelet function. However, when the term "Haemophilia" is used, it most often refers to Haemophilia A and Haemophilia B. It is a hereditary X-linked coagulation disorder caused by deficiency or reduced activity of Factor VIII in Haemophilia A or Factor IX in Haemophilia B. The clinical hallmark is bleeding into joints,soft tissues and muscle. In developing countries such as India, where patients have limited access to treatment there is widespread disability from recurrent joint bleeds, and morbidity from joint impairment increases significantly with age. Furthermore repeated use of blood and blood products as a cheaper alternative to factor concentrate increases the risk of transfusion transmitted infections. The world federation of haemophilia estimates that there are 4lac individuals worldwide with haemophilia **[**1**]**. Out of them, 80% are in developing countries such as India **[**2**]**. In most of the developing countries, a very low amount of resources is spent on diseases like haemophilia. Under such conditions, data collection for haemophilia acquires a very low priority. In our institution a Comphrensive Hemophilia Care Centre was inaugurated and it takes care of the patients from entire population of jammu region as well as Kashmir valley and ladakh. This study was thus designed for the assessment of "Clinical" profile in haemophilia patients of our region. To assess the clinical profile of haemophilia patients in our region

MATERIAL AND METHODS

The present study was conducted in Haematology section of Postgraduate Department of Pathology, Government Medical College Jammu. Patients of all age groups who were registered at compressive haemophilia care centre, Govt. medical college Jammu were included in the study for a period of one year from October 2014 to September 2015. It was a prospective study and was approved by ethical committee, Govt. Medical College Jammu. All the subjects' information was kept confidential.

Inclusion criteria: All patients who were registered at Compressive Haemophilia Care Centre at Govt. Medical College Jammu as well as new cases were included. New cases were subjected to factor VIII and factor IX assay (if not done previously). In old cases factor levels were reconfirmed only in cases where it had been done within 24 hours of receiving factor VIII and factor IX or blood products.

Exclusion criteria

Patients with congenital bleeding disorders other than factor VIII and factor IX deficiencies and acquired bleeding disorders caused by drugs, infections, malignancy (acute leukemia) and platelet disorders were excluded from this study.

Detailed clinical history including Family history, Mode of presentation, age of onset of the disease, bleeding history of last one year, and most affected joint in decreasing order of frequency, treatment type and treatment products used was taken. Factor assay was done by one stage assay using semi-automated clot analyser. This was based on the ability of dilutions of standard and test plasmas to correct the activated partial thromboplastin time of plasma known to be totally deficient in factor VIIIbut containing all other factors required for the normal clotting. Factor level of <0.01 IU/ml (1%), 0.01-0.05 IU/ml(1-5%),>0.05- <0.40IU/ml(>5-<40%) were defined as severe, moderate and mild haemophilia respectively. All cases were also screened for hepatitis B, hepatitis C and HIV. The statistical analysis was done and the result was expressed as percentages and other appropriate statistical methods were applied wherever necessary.

RESULTS

In the present study, out of 70 cases, majority of the patients 57 (81.43%) belonged to haemophilia A (FVIII deficiency) followed by 12 (17.14%) patients of haemophilia B (FIX deficiency) and 1(1.43%) patient showed deficiency of both (FVIII/IX deficiency). Majority of the patients were of severe haemophilia followed by moderate haemophilia, mild haemophilia. The detailed family history has shown positive association in 58.58% cases of hemophilia.

In the present study majority of the patients (31.43%) were in the age group of 11-20 years followed by 25.71% in the age group of 21-30 years. Majority of the patients (81.43%) were <30 years age. Mean age of the patients was found to be 19.51 years with a range of 2.5 to 47 years. Age of presentation in majority of the patients were seen in the 1-5 years age group (52.86%) , followed by less than 1 year age group(27.14%).Only 7.14% of patients presented with symptoms after 16 years of age, they were of mild to moderate haemophilia and presented with symptoms after trauma. Mean age of onset of symptoms was 4.19 years with a range of 4 months to 21 years.

Out of 70 patients, 68.57% had history of hemarthosis followed by muscle and subcutaneous hematomas(45.71%) cases, dental bleed (20%) cases in the form of gum bleed and bleeding at the time of tooth eruption, prolonged post traumatic bleed (17.14%) in the form of muscle hematomas, intraabdominal bleed, joint bleeds ; GI bleed (17.14%) cases in the form of malena and haemtemesis, Haematuria(20%) cases and the least common was the CNS bleed (2.8%) cases. knee joint (61.43%) was the predominantly effected joint in haemophilia followed by elbow joint (41.43%) and ankle joint (32.86%). Ankle joint involvement was seen mostly in children. Hip and shoulder joint involvement was comparatively lower 10% and 8.57% respectively with few patients showed bleeding in wrist and PIP joint of hand.

Out of 70 patients, 42(60%) had 1-5 bleeding episodes/ year, followed by 26(37.14%) patients who had 6-19 bleeding episodes/year. Most of these patients belonged to severe haemophilia and had severe musculoskeletal deformities. Only 2 (2.86%) patients had less than 1 bleeding episode/year, and were of mild haemophilia, reported at centre due to traumatic bleed.

Clotting factors were given to all the patients whenever required along with rehabilitative treatment once they got enrolled into our centre. Most of the patients who reported to our institution never had received clotting factors earlier .They had received fresh frozen plasma and whole blood transfusion only. In this study, none of the patients were positive for HIV, 4.29% patients were HCV positive and 1.43% HBsAg positive. All those who had infection were severe Hemophiliacs. And of those who were infected 50% had a positive history of receiving blood or blood products**.**

Table-1: **Distribution of types of haemophilia (n = 70)**

Typeof Haemophilia	No. 0f patients	Percentage (%)
Haemophilia A	57	81.43
Haemophilia B	12	17.14
Both	1	1.43
Total	70	100.00

Table-2: **Distribution of haemophilia patients according to severity (n = 70**

Type of haemophilia		No. of patients	Percentage (%)
Mild haemophilia	A	1	1.43
	B	1	1.43
Moderate haemophilia	A	19	27.14
	B	3	4.29
Severe haemophilia	A	37	52.85
	B	8	11.43
	A/B	1	1.43
Total		70	100.00

Table-3: **Age wise distribution of haemophilia patients (n = 70)**

Age group	No of patients	Percentage (%)
1-10	17	24.29
11-20	22	31.43
21-30	18	25.71
31-40	9	12.86
>40	4	5.71
Total	70	100.00

Table-4: **Various clinical symptoms in haemophilia patients (n=70)**

Presenting complaints	Number of patients	percentage
Hemarthosis	48	68.57
Muscle and subcutaneous haematoma	32	45.71
Dental bleed	14	20
Post traumatic bleed	12	17.14
Epistaxis	18	25.71
Haematuria	14	20
GIT bleed	12	17.14
Illiopsoas bleed	3	4.29
CNS bleed	2	2.86

Table-5: **Distribution of Hemarthosis in haemophilia patients (n=70)**

Joint involved	No.of patients	percentage
Knee	43	61.43
Elbow	29	41.43
Ankle	23	32.86
Hip	7	10
Shoulder	6	8.57
Wrist	1	1.43
Proximal interphalangeal joint	1	1.43

DISCUSSION

Hemophilia A is more common than Hemophilia B. Majority of the patients 57 (81.43%) belonged to haemophilia A (FVIII deficiency) similar to study done by Kar A *et al***.** [3], Karim MA *et al***.** [4], Ling SC *et al.* [5] who found 80% cases of Hemophilias being constituted by hemophilia A. In contrast to our study, Mohsin S *et al.* [6] showed lower proportion of hemophilia A in his study. Hemophilia B accounted for 17.14% cases. As compared to study done by Shantala devi *et al***.**[7] and Manisha MA *et al***.** [8] wherein haemophilia B accounted for 10.6% and 14% cases respectively.

Being an inherited disorder, 58.58% cases in our study were found to have positive family history of haemophilia. Studies done by Karim MA *et al.* **[**4**]**, Kar A *et al***.** **[**3**]**, Mohsin S *et al.* **[**6**]**, Kim KY *et al***.[**9**]** show the association of positive family history in 40-71% cases of hemophilias.

Based on severity, severe hemophilia cases (75.7%) were the most prevalent followed by 31.43% cases of moderate and 2.86% cases of mild hemophilia. Similar results were seen in the study conducted by Karaman *et al.* **[**10**]**, Nigam RK, *et al.* **[**11**]**. In contrast to study done by Uddin MM *et al***.** [12] wherein mild hemophilia was found to be the most prevalent. Variations in prevalence rates and disease severity could be due to geographic differences, racial differences, variation in case finding, variation in hemophilia awareness and public health services and dissimilar diagnostic methodologies due to lack of standardized laboratory testing.

In the present study, the patients were seen in the age ranging from2.5 to 47 years with a mean age of 19.51 years. The peak age incidence was found in the age group of 11-20 years (31.43%). It was comparable with the study conducted by Karaman *et al.* **[**10**]** who reported 44.6% patients in the 11-18 year age group. Age of presentation in majority of the patients were in the 1-5 years age group (52.86%) , followed by less than 1 year age group(27.14%).Only 7.14% of patients presented with symptoms after 16 years of age and were found to be of mild to moderate haemophilia and presented with symptoms after trauma. Mean age of onset of symptoms was 4.19 years with a range of 4 months to 21 years. Similar to the study done by Payal V *et al*.**[**13**].**

The most common presenting symptom was found to be Hemarthosis (68.57%). similar to that seen in study done by Uddin MM *et al***. [**12**]** ,and Karim *et al***. [**4**]**, Nigam *et al***. [**11**]** who reported hemarthosis in 100% and 82% ,64.96% cases. Second most common presentation was in the form of muscle and subcutaneous hematoma seen in (45.71%) cases. Hazewinkel MH *et al***. [**14**]**, reported subcutaneous bleeding in 45% cases as common symptom and mucosal bleeding in 15% cases. Other presenting symptom were dental bleed (20%) cases in the form of gum bleed, epistaxis(25.71%) cases, Haematuria(20%) cases ,GI bleed12(17.14%) cases and the least common was the CNS bleed seen in 2(2.86%) patients. Similar pattern was seen in study done by Payal V *et al.***[**13**].**

Among the joints affected,knee joint (61.43%) was the predominantly effected joint in haemophilia followed by elbow joint(41.43%) and Ankle joint (32.86%). Similar to the study done by Karim MA *et al.* **[**4**]** and Handelsman JE *et al***. [**15**]**.Hip and shoulder joint involvement was comparatively lower 10% and 8.57% respectively. Few patients showed bleeding in wrist and PIP joint of hand. Similar to study done by Payal V *et al*.**[**13**]**.

Out of 70 patients, 42(60%) had 1-5 bleeding episodes/ year, followed by 26(37.14%) patients who had 6-19 bleeding episodes/year. Most of these patients belonged to severe haemophilia and had severe musculoskeletal deformities. Only 2 (2.86%) patients had less than 1 bleeding episode/year, and were of mild haemophilia, reported at centre due to traumatic bleed. Similar to that seen in study done by Payal V *et al*.**[**13**].**

All the patients were given treatment .Clotting factors were given to all the enrolled patients whenever required along with rehabilitative treatment. Most of the patients reporting to our institution never had received clotting factors earlier. They had received fresh frozen plasma and whole blood transfusion only.

In this study, none of the patients were positive for HIV, 4.29% were positive for HCV and 1.43% was positive for HBsAg. All those who had infection were severe Haemophiliacs. And of those who were infected 50% had a positive history of receiving blood or blood products. Dubey A *et al***. [**16**]** observed TTI seropositivity of haemophilia patients to be 1.75% for HIV, 1.75% for HBsAg, and 13.15% for HCV. This prevalence was much lower than that reported from a study done in western India in which the prevalence of HIV, HBsAg, and HCV has been reported to be 3.8%, 6%, and 23.9% by Ghosh *et al***. [**17**]**. The prevalence of seropositivity in haemophiliacs for HepB and Hep C was found to be 5%and 7.5% respectively in India (2008-9), in Iran it was 26.7% and 71.35% cases respectively **[**13**]**. This variation may be because of the various steps taken to minimize the risk of transfusion related/transmitted infections since 1996. Clotting factors are now subjected to viral inactivation procedures such as heat or solvent/detergent treatment

CONCLUSION

Haemophilias are distributed worldwide and have heterogenous presentatiob depending upon disease severity. Knowledge of the spectrum of presentation of haemophilia in the local population helps in early diagnosis and management planning. Promotion of regular availability of factor concentrate, prophylactic factor replacement, establishing comprehensive care centre, regular training of medical and paramedical staff and positive public awareness will help in achieving the outcome comparable to developed countries.

REFERNCES

1. Skinner MW, Lillicrap DP, McMillan J, Castro Ozelo M, Pierce GF. What is a cure and how do we get there?Hemophilia 2004;10(4):115-18.

2. Mammen J, Nair SC, Srivastva A. External quality assessment scheme for hemostasis in India. SeminThromb Hemost.2007;33:265-72.
3. Kar A, Potnis-Lele M. Descriptive epidemiology of haemophilia in Maharashtra, India. Haemophilia. 2001 Nov 12;7(6):561-7.
4. Karim MA, Siddique R, Jamalcy, Islam A. Clinical profile of haemophilia in children in a tertiarycare hospital, Bangladesh J Child health 2013,vol 3(2):90-6.
5. Ling SC, Chan GC, Shing MM, Yuen HL, Lee AC,Chan CW. Childern and adolescents with haemophilia in Hong kong .An epidemiological and clinical review.HK J Paediatr.2006;11;13-9
6. Mohsin S,Saeed T, Hussain S, Mahmood S, Sohail S. Clinical manifestations and complications of hemophila in Pakistan. Ann Pak Instl Med Sci.2010;6:168-71.
7. Shanthala Devi AM, Sitalakshmi S, Srikrishna A, Damoder P, Mathew T, Ernest JP. Profile of inherited bleeding disorders in ateaching hospital.Indian J Hematol Blood Transf 1998;17:16-18.
8. Manisha M, Ghosh K, Shetty S, Nair S, Khare A, Kulkarni B, Pathare AV, Baindur S, Mohanty D. Spectrum of inherited bleeding disorders from Western India. Haematologia. 2002 Mar 1;32(1):39-47.
9. Kim KY, Yang CH, Cho MJ, Lee M. Comprehensive clinical and statistical analysis of haemophilia in Korea. J Korean Med Sci.1988;3:107-15.
10. Karaman K, Akbaym S, Garipardic M, Oner AF. Diagnostic evaluation of our patients with haemophilia A: 17 year experience. Turk Pediatri Ars 2015;50:96-101.
11. Nigam RK, Choudhary R, Malik R, Kothari S, Verma KP, Shrivastava A, Banseria N, Jain R. Hemophilia, clinico-hematological-hemarthrosis, Bhopal. Clinicohematological study of hemophilia patients in bhopal. 2014 Mar 14(3536).
12. Uddin MM, Rahman MJ, Rahman MM, Sultana SA, Shah MS. Clinicopathological study on Haemophilia: An analysis of 50 cases .J Bangladesh Coll Phys Surg 2006;24:50-53.
13. Payal V, Sharma P, Goyal V, Jora R, Parakh M, Payal D. Clinical profile of hemophilia patients in Jodhpur Region. Asian journal of transfusion science. 2016 Jan;10(1):101.
14. Hazewinkel MH, Hoogerwerf JJ, Hesseling PB, Hartley P, MacLean PE, Peters M, Wessels G. Student Paper: Haemophilia patients aged 0-18 years in the Western Cape. South African Medical Journal. 2003 Oct 1;93(10):793-6.
15. Handlesman JE. The Knee joint in haemophilia. Orthop Clin North Am.1979;10:139-73.
16. Dubey A, Verma A, Elhence P, Agarwal P. Evaluation of transfusion-related complications along with estimation of inhibitors in patients with hemophilia: A pilot study from a single center. Asian journal of transfusion science. 2013 Jan;7(1):8.
17. Ghosh K, Shetty S, Kulkarni B, Nair S, Pawar A, Khare A, Baindur S, Mohanty D. Development of inhibitors in patients with haemophilia from India. Haemophilia. 2001 May 1;7(3):273-8.