

*Original Article***PATTERN OF CLINICAL PRESENTATIONS IN HEMOPHILIACS IN NEPAL****K Manandhar*, Rewati Raman Malla**, Manil Ratna Bajracharya******Abstract**

This study was conducted at the Hemophilia Care Unit at Bir Hospital, NAMS. This is the only care unit for hemophiliacs in the country and caters to around 230 hemophiliacs registered with the Nepal Hemophilia Society. The objective of the study was to record the common bleeding episodes and the less common but more serious bleeding episodes in hemophiliacs in Nepal.

75 cases of hemophilia attending Hemophilia care unit were studied in 2064 first quarter. Among these, all were males. 56 had Hemophilia A and 11 had Hemophilia B and one was a case of Factor X deficiency.

Out of 56 subjects with Hemophilia A, almost all were severe hemophiliacs and only one had moderate hemophilia. Out of 11 subjects with Hemophilia B, all were severe type. The age of the subjects ranged from 2 years to 42 years. Knee joint bleeding was the most common, 70 episodes occurring during the study. This was followed by elbow joint bleeding which occurred in 30 episodes. Ankle joint bleeding was the next common with 23 episodes. 19 episodes of hip joint bleeding were recorded. Shoulder joint bleeding was less common (8 episodes).

Gum bleeding (13 episodes), hematoma in thigh muscles (7 episodes) and bleeding into

other muscle sites (3 episodes) were also recorded. Among the more serious internal bleeding, 3 abdominal bleeding episodes and one GI bleeding was seen. Brain hemorrhage was diagnosed in 3 cases.

Keywords

Hemophilia, Factor VIII, Factor IX,

Introduction

Hemophilia is a hereditary x-linked disease which is very rare worldwide. By the end of 2007, there were only about 230 hemophiliacs registered with the Nepal Hemophilia Society although, considering world prevalence, around 2000 cases are expected in the country. There are almost no published studies on hemophilia in Nepal as it is such a rare disease. There is mainly one hemophilia care unit in the whole country and it caters to all the hemophiliacs throughout the country. Almost all the hemophiliacs come to this centre for treatment as plasma treatment and factor replacement treatment is almost entirely carried out from this centre. Even those patients who are admitted for serious complications in other specialist hospitals like Kanti children's hospital and other hospitals received their supply of factor concentrates through this centre. As factor replacement treatment is readily available in the developed countries, hemophiliacs there lead a

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nearly normal life with minimal or no disabilities. In Nepal, treatment of hemophiliacs is a challenge because of the exorbitant price of the factor concentrates, their unavailability and also the remoteness of the geography. One 1000 IU vial of Factor concentrate costs around Rs. 10,000 and a severe bleeding episode like intracranial bleeding will require nearly 30 to 60 such vials.

Nepal Hemophilia Society receives a very limited amount of Factor concentrates in donation and by purchasing, approximately 60 to 200 vials a year. Thus most patients have to be treated with plasma and cryoprecipitates. This is less effective than factor concentrates and also exposes the hemophiliacs to viral infections like hepatitis B, C and HIV. Therefore the disease pattern and complications are different in our part of the world. This study will be very helpful in recording the pattern of presentation and disabilities produced by this condition in Nepal.

Results

This study was conducted at Hemophilia care unit at National Academy of Medical Sciences (NAMS), Bir Hospital. The aim of the study was to record the common bleeding episode patterns in hemophiliacs and the rarer but more serious complications of this problem.

75 diagnosed cases of hemophilia attending Hemophilia care unit were studied from 2064/1/1 to 2064/3/32. Among these, all were males.

56 had Hemophilia A (Factor VIII deficiency) and 11 had Hemophilia B (Factor IX deficiency) and one was a case of Factor X deficiency. The rest were still not fully investigated. The age of the hemophiliacs ranged from 2 years to 42 years. There were 4 patients below 5 years, 12

patients between 5 to 10 years, 15 patients between 10 to 15 years, 13 patients between 15 to 20 years and 18 patients between 20 to 25 years. But there were only 3 patients each in the 25 to 30 years age group and above 30 years age group.

Out of 56 subjects with Hemophilia A, almost all were severe hemophiliacs with Factor VIII level less than 1% and only one had moderate hemophilia with factor level between 1 and 5%. Out of 11 subjects with Hemophilia B, all were severe type (Factor level less than 1%).

The age of the subjects ranged from 2 years to 42 years. Joint pains are the hallmark of hemophilia and are very severe and recurrent in severe hemophilia.

A total of 176 bleeding episodes into various sites were recorded. Bleeding into joints was the most common, occurring in 144 episodes (81.8%). Many of the joint bleeding were into multiple joints simultaneously. In this series, knee joint bleeding was the most common, 70 episodes occurring during the study. This was followed by elbow joint swelling due to bleeding which occurred in 30 episodes. Ankle joint bleeding was the next common with 23 episodes. Hip joint bleeding episodes were also fairly common and 19 episodes were recorded. Shoulder joint bleeding and swelling was less common occurring in only 8 episodes.

Gum bleeding was also relatively common and occurred in 13 episodes (7.4%). Hematoma in thigh muscles was seen in 7 incidences (3.98%). 3 episodes of bleeding

into other muscle sites were also recorded. Epistaxis was seen in 3 cases (1.7%).

Among the more serious internal bleeding, 3 abdominal bleeding episodes were seen. One case of severe GI bleeding had to be admitted and was treated with blood transfusions and factor concentrates. Brain hemorrhage was the most serious complication that was encountered. 3 cases of brain hemorrhage (1.7%) diagnosed by CT scan presented to the care unit. Besides this, there was one case of hematoma on head and 2 cases of hematoma around the eye.

Discussion

75 diagnosed cases of Hemophilia attending hemophilia care center were enrolled in this study from 2064/1/1 to 2064/3/32. The majority of the cases were Hemophilia A (74.7%) and 14.7% case were Hemophilia B. The rest included Factor X deficiency and some yet not completely diagnosed cases. The data from Nepal Hemophilia Society also showed similar ratio of Hemophilia A and B in Nepal. Kar A et al(1) have reported the ratio of Hemophilia A to Hemophilia B to be 4.2 : 1 in Maharashtra.. Another author reported that Hemophilia A is seven times more common than Hemophilia B.(2) Bolton-Maggs et al (3) have mentioned the prevalence of Hemophilia B to be about a fifth that of hemophilia A.

In this series, all the subjects were males. Although no females were included in this study, Nepal Hemophilia Society has registered 2 female hemophiliacs till date. Although very rare, hemophilia in females is a well known fact.(4) The genetic mechanism

for hemophilia in females can be extreme lyonisation, Turner's syndrome or carriage of a mutation by both parents.

The age of the hemophiliacs ranged from 2 years to 42 years. There were 4 patients below 5 years, 12 patients between 5 to 10 years, 15 patients between 10 to 15 years, 13 patients between 15 to 20 years and 18 patients between 20 to 25 years. But there were only 3 patients each in the 25 to 30 years age group and above 30 years age group. Severe hemophiliacs present at an early age. Most children with severe hemophilia experience their first bleed into a joint by age 4 years but many bleed from other sites before this age.(5) In this study, most of the patients were below 20 years and there were only 6 patients above 25 years. In Nepal many hemophiliacs especially the milder ones are diagnosed at a later age because of lack of awareness and difficulty in taking the child to a proper medical facility.

In this study, bleeding into joints was the most common presentation and joint bleeding episodes were recorded 150 times. Out of this, knee joint bleeding episodes were most common, occurring 70 times. Hemarthrosis has been reported to account for about 75% bleeding episodes in severely affected hemophiliacs.(4,6)

The most commonly affected joints in decreasing order of involvement include knee, elbow, ankle, shoulder, wrist and hip.(7,8) In the present study, the most affected joints in decreasing order were knee, elbow, ankle, hip and shoulder which is comparable. In patients with severe disease, bleeding episodes may

occur as frequently as 30-35 times a year whereas in those with milder forms, bleeds are less frequent. (9) In this study, nearly all the patients were severe type of hemophilia and it was seen that in the 3 months study period, many of the patients came repeatedly to the care unit with bleeding episodes. Many of the hemophiliacs studied also had multiple joint involvements at the same time. Intracranial bleeding is the most dangerous bleeding in hemophilia and it was the commonest cause of death in hemophilia before the availability of factor concentrates.(10)

In the present study, there were three cases of intracranial hemorrhage which were diagnosed by CT scan. All three patients received factor concentrate treatment and survived.

Conclusion

Although hemophilia is a very rare condition, many hemophiliacs are being treated at the Bir Hospital Hemophilia Care Unit as it is the only established care unit in the country. Most hemophiliacs present with hemarthrosis of large joints and knee joint is the commonest joint to be involved. Gastrointestinal bleeding and brain hemorrhage are the most serious complications and all the hemophiliacs with these complications in the present study received prompt treatment with factor concentrates and blood transfusion and survived. But factor concentrates are exorbitantly expensive in the country and hemophiliacs do not receive adequate factor concentrates for their joint bleeds. This leads to repeated joint bleeds requiring treatment

with plasma and cryoprecipitates at the care unit.

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