Spectrum of hemophilia in Diyala-Iraq

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Abstract

Background: Deficiencies of coagulation factors have been recognized for centuries. The most common inherited factor deficiencies are the hemophilias, X-linked diseases caused by deficiency of factor VIII (hemophilia A) or factor IX (hemophilia B).

Objective: To determine the clinical status, complications and the treatment regimen used for the patients with hemophilia in Diyala province of Iraq**.**

Patients and methods: A review of all patient's records with hemophilia in the hemophilia care center in Al-Battol teaching hospital in Baquba during the period from the1st January 2015-30th of June 2015 were included. The patient's records contain all the information required such as age, gender, address, age at diagnosis, severity, presenting complaint, viral status, presence of inhibitors and target joint involvement. All patients were tested to confirm the diagnosis, assess the severity, viral status and the presence of inhibitors by factor assay, activated partial thromboplastin time, prothrombin time, hepatitis B surface antigen, hepatitis C virus antibodies, Human immunodeficiency virus serology and mixing study.

Results: A total of 64 registered patients were reviewed in the hemophilia care center in Al-Battol teaching hospital of them 59(92%) with hemophilia A, while the others 5(8%) with hemophilia B. All of them were male. With median age about 13 year and a range from 2 to 72 years. 20 patients(31%)with mild hemophilia ,11(17%)with moderate and 33(52%)with sever type. Positive family history documented in 42 patient(66%) .One patient (1.6%)had hepatitis B surface antigen positive test, with 9 patients (14.1%)with hepatitis C positive results, no patients with HIV positive tests.3 patient(11%)with sever hemophilia A had inhibitors.41 patient(64%)had target joint involvement.

Conclusion: Hemophilia is a rare disease but imply heavy impact on the family and the society. The improvement in comprehensive care let those patients live longer with better quality of life.

Keywords: Hemophilia, comprehensive care, inhibitors.

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Introduction

Deficiencies of coagulation factors have been recognized for centuries. Patients with genetic deficiencies of plasma coagulation factors exhibit lifelong recurrent bleeding episodes into joints, muscles, and closed spaces, either spontaneously or following an injury. The most common inherited factor deficiencies are the hemophilias, X-linked diseases caused by deficiency of factor (F)VIII (hemophilia A) or factor IX (FIX, hemophilia B)[1].

The World Federation of Hemophilia (WFH) has estimated the total number of hemophilia at about 500,000 universally, while one-third are diagnosed [2].

The reported hemophilia A prevalence varied considerably among countries, even among the wealthiest of countries. The prevalence (per 100 000 males) for high income countries was 12.8 ± 6.0 (mean ± SD) whereas it was 6.6 ± 4.8 for the rest of the world[3].

Hemophilia A or classical hemophilia accounts for about 80% of all hemophiliacs. This lifelong disorder has three phenotypes (severe, moderate and mild) that correlates with factor VIII (FVIII) levels in plasma (<1%, 1-5%, 5-30% respectively) and its clinical phenotypes[4][5].

Nowadays, with the improvement of therapeutic facilities, the median life expectancy has been increased noticeably[6]. The aim of the study is to determine the clinical status, complications and the treatment regimen used for the patients with hemophilia at Diyala province of Iraq.

Patients and Methods

This study was done for the period from 1st January 2015-30th of June 2015. The medical records of 64 patients with hemophilia registered in the hemophilia care center at Al-Battol teaching hospital in Baquba were reviewed. History and clinical findings were recorded and Patients with a history of bleeding tendency were tested to confirm the diagnosis.

These medical records contain all the information required such as age, sex, address, age at diagnosis, severity, family history, presenting complaint, viral status, presence of inhibitors and target joint involvement. The patients reinvestigated to confirm the diagnosis, assess severity, viral status and the presence of inhibitors by factor assay, activated partial thromboplastin time (APTT) and prothrombin time(PT)

All patients were evaluated for hepatitis B,C and HIV infection using Enzyme linked immunosorbent assay (ELISA), biokit type, Spain (lot:B25572 and B25761). While patients with hemophilia A and B were evaluated for inhibitors by mixing patient plasma with normal plasma if prolonged (APTT) not corrected so inhibitors were present.

Statistical analysis. All statistical analysis was done by using statistical package for social sciences (SPSS) version 20.

Results

The total number of cases with hemophilia were 64 patients. All of them were male. The median age were13 year and a range from 2 to 72 years.

The age distribution of the patients in this study show that 36 patient (55.8%) where less than 16years old and as shown in table (1).

Table (1): The age distribution of the patients with hemophilia.

Age	Type of hemophilia				Total	
	Hemophilia A		Hemophilia B			
	N	%	N	%	N	%
=<5	11	17%	2	3.2%	13	20.2%
6-15	22	34%	1	1.6%	23	35.6%
16-25	17	27%	1	1.6%	18	28.6%
>26	9	14%	1	1.6%	10	15.6%
Total	59	92%	5	8%	64	100%

The median age at diagnosis was 6 months in this study and 32 patient (50%) had their first presentation and diagnosis in the first 6 months of their life.

Fifty nine patient (92%) had hemophilia A, while the others 5 patients (8%) had hemophilia B and as shown in figure (1).

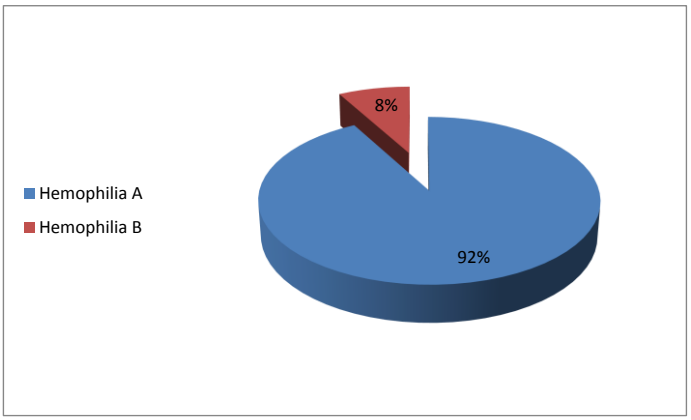

Figure (1): The distribution of cases with hemophilia according to their type.

Twenty patients (31%) with mild hemophilia A(factor VIII level 5-30%),11 patient (17%)with moderate hemophilia A (factor VIII level 1-5%) and 28 patient (44%)with sever type(factor VIII level <1%). All 5patients with hemophilia B were sever type and as shown in table (2)

Table (2): The distribution of hemophilia according to the severity.

	Mild	Moderate	Sever	Total
Hemophilia A	20 (31%)	11(17%)	28 (44%)	59 (92%)
Hemophilia B	0 (0%)	0 (0%)	5 (8%)	5 (8%)
Total	20 (31%)	11 (17%)	33 (52%)	64 (100%)

Positive family history documented in 42 patient (66%) and as shown in figure (2)

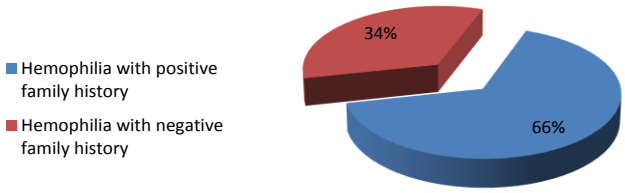

Figure (2): The classification of hemophilia according to the family history.

The number of patients with target joint involvement were 41 patient (64%) with one joint involvement in 24 patient (37%) of them and as shown in table (3).

Table (3): Number of target joint involvement in those patients who had a positive joint involvement.

Number of target joint	Hemophilia A	Hemophilia B	Total
One joint	22 (34%)	2 (3%)	24 (37%)
Two joints	10 (16%)	1 (2%)	11 (18%)
Three or more joints	6 (9%)	0 (0%)	6 (9%)
Total	38 (59%)	3 (5%)	41 (64%)

One patient (1.6%) had hepatitis Bs Ag positive test, and 9 patients (14.1%) with hepatitis C positive results, with no patients with HIV positive test and as shown in table (4).

Table (4): The number of patients with hemophilia and hepatitis infection.

	Hepatitis B +ve	Hepatitis C +ve	Total
Hemophilia A	1 (1.6%)	8 (12.5%)	9 (14.1%)
Hemophilia B	0 (0%)	1 (1.6%)	1 (1.6%)
Total	1 (1.6%)	9 (14.1%)	10 (15.7%)

Only 3 patients (11%) with severe hemophilia A had inhibitors and as shown in figure (3).

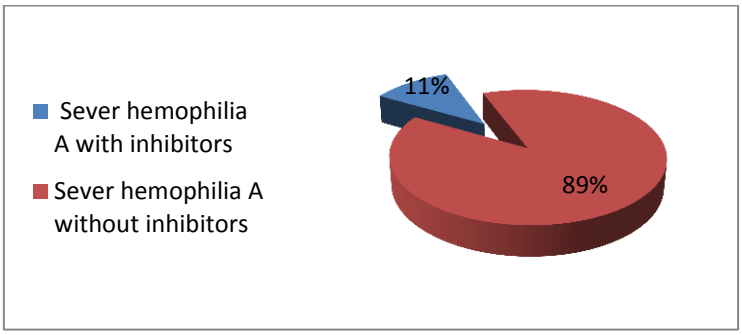

Figure (3): Classification of sever hemophilia a according to the presence of inhibitors.

All patients were treated with factor concentrate. But 46 patient (72%) were on demand treatment, while 18patient (28%)on prophylaxis treatment. And as shown in figure (4).

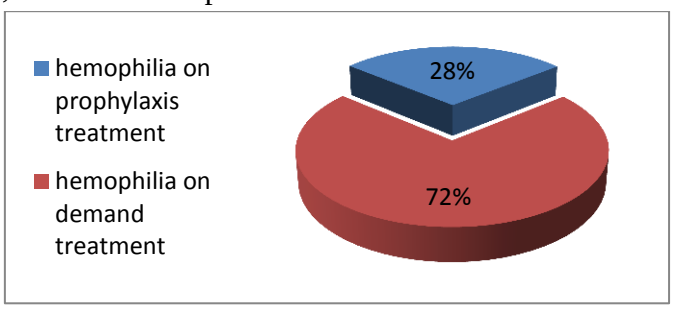

Figure (4): Classification of patients with hemophilia according to the treatment regimen.

Discussion

In this study a total number of patients with hemophilia were 64. All of them were male. The median agewere 13year with a range from 2 to 72 years old. The age distribution in this study show that 36 patient (55.8%) where less than 16years old and this result disagree with the result of another study done by AL- Zubaidy in Iraq 2014[7] and a study done by Dragani and his colleague in Italy 2008[8]which show that the percentage of the patients less than 16years old were(65%and18.9%)respectively.

The median age at diagnosis was 6months in this study and 32 patient (50%)had their first presentation and diagnosis in the first 6 months of their life and this result disagree with the result of the study done by Abdul-Karim and Mohammed in Iraq 2010[9]. which show that (42.8%)had their onset of symptoms during the first 6 months of their life. And the median age at diagnosis seen in this study was lower than those shown in another study done by Sajid and his colleague in Pakistan 2010[10].which show a median age at diagnosis was one year.

Hemophilia A constitute about (92%)of the cases and this agree with other studies done in Iraq by AL- Zubaidy 2014[7] and Abdul-Karim and Mohammed 2010[9] which show that hemophilia A was the commonest type in(76.7% and 80%) respectively.

Our study show that (52%) of the cases of hemophilia were with sever type,(17%) with moderate type and (31%) with mild type. And this results disagree with of another study done in Iraq by Abdul-Karim and Mohammed 2010[9] which show that sever hemophilia constitute (66.3%).And also disagree with the results of a studies done by Al Tonbary and his colleague in Egypt 2010[11] and Eshghi and his colleague in Iran 2010[12] which show that sever hemophilia constitute (76.7%and 47%) respectively.

Positive family history was documented in (66%) of cases. And this result was lower than the results done by Dragani and his colleague in Italy 2008[8]which show that positive family history was present in (74.7%)of cases.

In this study target joint involvement were present in(66%) of cases and this disagree with the result of the study done by Abdul-Karim and Mohammed in Iraq 2010[9] which show that target joint involvement were positive in (52.6%)and also disagree with the results of studies done by Mansouritorghabeh and his colleague in Iran 2013 [13] and Borhany and his colleague in Pakistan 2010[14]. which show target joint involvement in (72.6% and 79.7%) respectively.

Hepatitis C shown in this study in (14.1%) and it's higher than other studies done by Galila and Soheir in Saudi Arabia 2012[15] and Sajid and his colleague in Pakistan 2010[10]which show hepatitis C in (5% and 1.4%)respectively. But it's lower than a study done by Dragani and his colleague in Italy 2008[8] which show hepatitis C in (21%).

The prevalence of hepatitis B between hemophilic patients in this study were (1.6%) which agree with the results of the study done by Mansouritorghabeh and his colleague in Iran 2013 [13] which show that the prevalence of hepatitis B were (1.8%).And it's higher than the result of the study done by Sajid and his colleague in Pakistan 2010[10]which show that the prevalence of hepatitis B was (0.2%).

Inhibitors to factor VIII appear in (11%) of cases with sever hemophilia A and this result was lower than the results of studies done by Dragani and his colleague in Italy 2008[8]and Borhany and his colleague in Pakistan 2010 [14]were both of them show that the prevalence of inhibitors in sever hemophilia A were(15%).

The main treatment given to our patients were recombinant factor concentrate and

(72%) of them were on demand treatment, While (28%) were on prophylaxis treatment. And these figures were higher than those from the study done by Dragani and his colleague in Italy 2008[8] which show that only (13.7%) patients with hemophilia A or B are receiving prophylaxis treatments.

In conclusion hemophilias are rare diseases in our province but imply heavy impact on the family and the society. The improvement in comprehensive care let those patients live longer with better quality of life.

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