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B-Thalassemia in Patients Reviewing Al-Mouwasat University Hospital in Damascus, Syria

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Abstract *Objective:* This research was done to study B- thalassemia in patients reviewing Al- Mouwasat University Hospital in Damascus, Syria. *Materials and Methods:* This study was a retrospective study of 80 patients who reviewed the Al- Mouwasat University Hospital. This study included 80 cases from 20/6/2018 to 30/9/2019. *Results:* Most of the participants were males in 45 patients (56.3%). Most of the patients were younger than 5 years old with 47%. Multiple drug treatment was used in most of the cases 51.2%. *Conclusion:* This study highlights the need for large-scale epidemiologic research showing the prevalence and incidence of Thalassemia in Syria.

Keywords B-thalassemia, Al-Mouwasat, Hematologic disorder, Syrian population

Introduction

Thalassemia is a well-known inherited hematologic disorder caused by a decrease or an absence of globin production [1]. Patients with thalassemia suffer from chronic hemolytic anemia and its sequelae. Thalassemia originates from varying genetic abnormalities that result in different clinical presentation. Non-transfusion dependent thalassemia (NTDT) or thalassemia intermedia (TI) is a milder form of thalassemia which does not require regular blood transfusion for survival. This group of thalassemia patients was recognized earlier as a TI but no consensus on diagnostic criteria has been reached due to high clinical variations ranging from asymptomatic to multi-organ involvement [2–9]. The terminology has been changed from TI to NTDT [10]. Generally patients with NTDT can maintain hemoglobin levels at 6–10 g/dl with occasional blood transfusions that may be required with fever, infection, or pregnancy [3, 4, 7, 8, 10]. Complications of NTDT result from chronic hemolysis and tissue hypoxia, causing iron overload and problems in many organ systems [5, 6, 8, 11–20].

Materials and Methods

This study was a retrospective study of the patients who reviewed Al- Mouwasat University Hospital. This study included 80 cases from 20/6/2018 to 30/9/2019 who were diagnosed with B-thalassemia. All the data were collected only by the authors to ensure the privacy and all the names and personal information were blinded. Statistical analysis was done using SPSS 25.0.

Results

Males were the majority in 45 patients (56.3%) in our study. Most of the patients were younger than 5 years old with 51.3%. Multiple drug treatment was used in most of the cases 51.2% (Table 1).

Table 1: Variables of our study

		N	%
Gender	Male	45	56.3
	Female	35	43.7
Age	<5	41	51.3
	6-10	15	18.7
	10-16	24	30
Treatment	One drug	39	48.8
	More than one drug	41	51.2

Most common ferritin values before treatment were between 1500-2000 ng/ml as the most common (47.5%), while after treatment were between 1000-1500 ng/ml as the most common (71.3%) (Table 2).

Table 2: Ferritin levels in our study

Ferritin levels before treatment			
		Frequency	**Percent**
Range ng/ml	1000-1500	17	21.3
	1500-2000	38	47.5
	>2000	25	31.2
Ferritin levels after treatment			
Range ng/ml	500-1000	8	10
	1000-1500	57	71.3
	1500-2000	15	18.7

Hemoglobin values before treatment were between 4-8 g/dl as the most common (62.5%), while hemoglobin values after treatment were between 4-8 g/dl as the most common (58.7%). (Table 3)

Table 3: Hemoglobin levels in our study

Hemoglobin levels before treatment			
		Frequency	**Percent**
Range g/dl	4-8	50	62.5
	8-10	23	28.8
	>10	7	8.7
Hemoglobin levels after treatment			
Range g/dl	4-8	47	58.7
	8-10	27	33.8
	>10	6	7.5

Discussion

Most of the participants were males in 45 patients (56.3%) compared to 35 females (43.7%).

Regarding age of the participants, most of the patients were younger than 5 years old with 51.3%, while only 18.7% of the patients were between (6-10 years old). 30% were between 10-16 years old.

Ferritin values before treatment were between 1500-2000 ng/ml as the most common (47.5%), while values between 1000-1500 ng/ml were the least common (21.3%). (31.2%) had ferritin levels higher than 2000 ng/ml.

Ferritin values after treatment were between 1000-1500 ng/ml as the most common (71.3%), while values between 500-1000 ng/ml were the least common (10%). (18.7%) had ferritin levels between 1500-2000 ng/ml.

Hemoglobin values before treatment were between 4-8 g/dl as the most common (62.5%), while values more than 10 g/dl were the least common (8.7%). (28.8%) had Hemoglobin levels between 8-10 g/dl. Hemoglobin values after treatment were between 4-8 g/dl as the most common (58.7%), while values more than 10 g/dl were the least

common (7.5%). (33.8%) had Hemoglobin levels between 8-10 g/dl. Multiple drug treatment was used in most of the cases 51.2%, while one drug treatment was used in 48.8% of all patients.

Conclusion

Most of the participants were males. Most of the patients were younger than 5 years old. Multiple drug treatment was used in most of the cases.

Compliance with Ethical Standards

Funding: This study was not funded by any institution.

Ethical approval: The names and personal details of the participants were blinded to ensure privacy.

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