Assessment of Liver and Renal Indices in Patients with Pemphigus Foliaceous Receiving Dapsone

Naji T, Davari A*, Afrasiyabi M, Sagharjoghi Farahani M

***Abstract*—** Pemphigus is a rare group of blistering autoimmune diseases that affect the skin and mucous membranes. The reports indicate that Dapsone also has treatment effects. This study was exerted to determine the biochemical factors in patients with Pemphigus foliaceous receiving Dapsone. The data were analyzed using ANOVA. Our findings show that there was no significant difference in serum levels of SGOT, SGPT, UREA, BUN and Creatinine before and after receiving dapsone in patients with Pemphigus Foliaceous.

***Index Terms*—** Pemphigus Foliaceous, Dapsone, Renal Indices*.*

I. Introduction

Pemphigus is a rare group of blistering autoimmune diseases that affect the skin and mucous membranes [1]. Originally, the cause of this disease was unknown, and "pemphigus" was used to refer to any blistering disease of the skin and mucosa. In 1964, researchers found that the blood of patients with pemphigus contained antibodies to the layers of skin that separates to form the blisters [2]. In 1971, an article investigating the autoimmune nature of this disease was published [3],[4]. There are several types of pemphigus which vary in severity: pemphigus vulgaris, pemphigus foliaceus, Intraepidermal neutrophilic IgA dermatosis, and paraneoplastic pemphigus. Pemphigus vulgaris is the most common form of the disorder and occurs when antibodies attackDesmoglein 3. Sores often originate in the mouth, making eating difficult and uncomfortable. Although pemphigus vulgaris may occur at any age, it is most common among people between the ages of 40 and 60 [5]. Endemic pemphigus foliaceus, including the Fogo Selvagem, the new variant of endemic pemphigus folaiceus in El Bagre, Colombia, South America, and the Tunisian endemic pemphigus in North Africa [6]. Dapsone, also known as diaminodiphenyl sulfone (DDS) [7], is an antibiotic commonly used in combination with rifampicin and clofazimine for the treatment of leprosy [8].

It is a second-line medication for the treatment and prevention of pneumocystis pneumonia and for the prevention of toxoplasmosis in those who have poor immune function [8]. Additionally, it has been used for acne, dermatitis herpetiformis, and various other skin conditions [9]. Dapsone is available both topically and by mouth [10]. The urinary indices are the fractional sodium excretion (FENa) index and the renal failure index (RFI) [11] According to previous studies have shown that 84% of cases were associated with hematologic malignancies like non-Hodgkin's lymphoma [39%], Chronic Lymphocytic Leukemia [18%], Castleman's disease [18%], thymoma [6%], Waldenstrom macroglobulinemia [1%], Hodgkin's lymphoma [1%], and monoclonal gammopathy [1%]. The remaining 16% were associated with nonhematologic neoplasms such as epithelial origin carcinoma [9%], mesenchymal origin sarcoma [6%], and melanoma [1%]. Oral ulcerations were the presenting feature in 45% of all cases and appear to be a key feature of PNP [12]. Last studies have shown that pathogenicity and epitope characteristics do not differ in IgG subclass-switched Anti-Desmoglein 3 IgG1 and IgG4 autoantibodies in Pemphigus Vulgaris [13]. Previous studies have shown that certain VH1-46 B cell populations may be predisposed to Dsg3-VP6 cross-reactivity, but multiple mechanisms prevent the onset of autoimmunity after rotavirus exposure [14]. According to last studies IgG4 and IgE autoantibodies from Fogo selvagem are a trigger for the initiation of an autoimmune skin disease [15].

II. Material And Method

Study population

Patients with moderate and severe pemphigus vulgaris and pemphigus foliaceous referred to Razi hospital during the study period in the years 2008-2009. This study was a clinical trial study. Serum levels of urea, BUN, Creatinine, SGOT and SGPT were measured before and after dopsone treatment. Data were analyzed using Qui-Square and ANOVA.

III. Results

Figure I shows the gender distribution of the participants

Tahereh Naji (PhD) is with the Department of Molecular and Cellular Sciences, Faculty of Advanced Sciences & Technology , Pharmaceutical Sciences Branch, Islamic Azad University, Tehran-Iran (IAUPS). (e-mail: t.s.naji@yahoo.com).

Arefe Davari (*corresponding author) is with Department of Molecular and Cellular Sciences, Faculty of Advanced Sciences & Technology , Pharmaceutical Sciences Branch, Islamic Azad University, Tehran-Iran(IAUPS).

(email: arefe.davari1372@gmail.com)

Mona Afrasiyabi is with the Department of Molecular and Cellular Sciences, Faculty of Advanced Sciences & Technology , Pharmaceutical Sciences Branch, Islamic Azad University, Tehran-Iran (IAUPS). (e-mail: monafras@yahoo.com).

Morteza Sagharjoghi Farahani (BSc) is with Department of Molecular and Cellular Sciences, Faculty of Advanced Sciences & Technology , Pharmaceutical Sciences Branch, Islamic Azad University, Tehran-Iran(IAUPS).(email:morteza7751@gmail.com)

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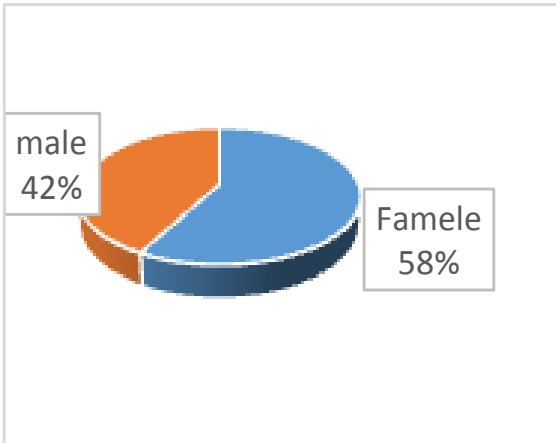

Figure I. Gender distribution of the participants In our studies had been the gender distribution of the participants in female more than male.

Figure II shows the ages of the participants.

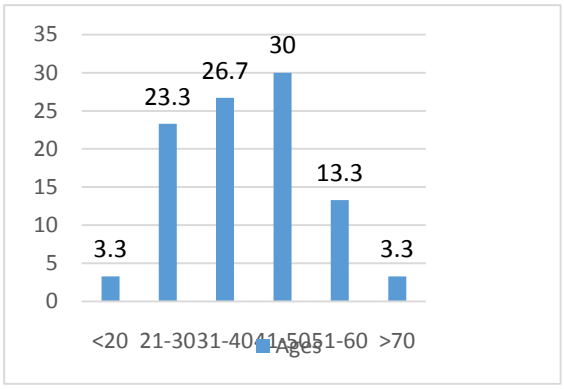

Figure II. Age of the participants

Figure III shows the average age of participants.

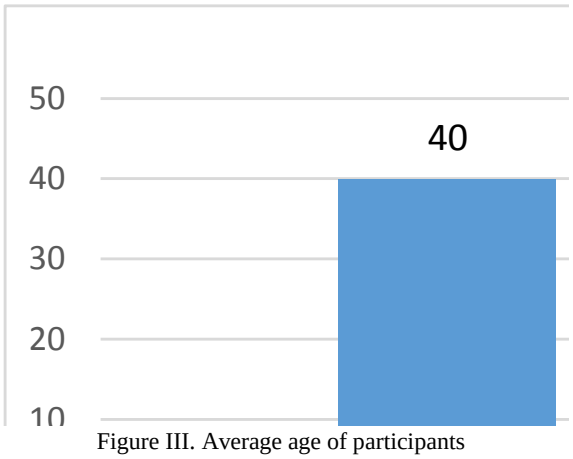

Figure III. Average age of participants

Figure IV shows serum levels of urea before and after treatment.

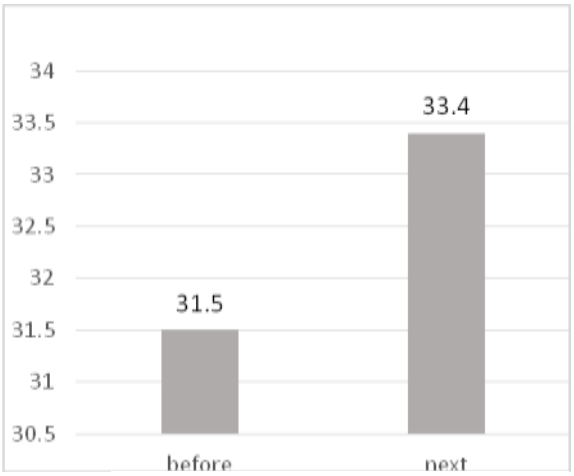

Figure IV. Serum levels of urea before and after treatment.

Figure V shows the serum levels of creatinine before and after treatment.

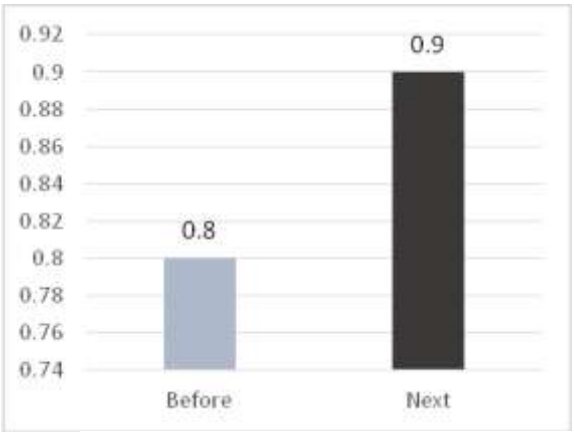

Figure V. Serum levels of creatinine before and after treatment.

Figure VI show the serum levels of BUN before and after treatment.

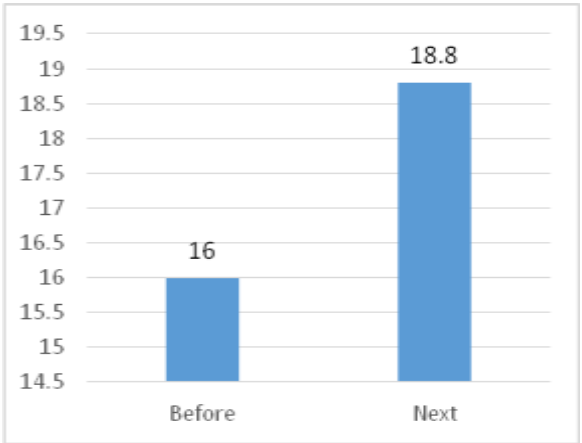

Figure VI. Serum levels of BUN before and after treatment.

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Figure VII shows the total comparison before and after treatment.

Result	P-Value	SD	Average	Time	Index
Insignificance	0.44	58.1	133.3	Before	ALP
		61.1	141.9	after	
Insignificance	0.12	53.7	126.1	Before	FBS
		55.8	116.1	after	
Insignificance	0.83	2.0	1.8	Before	RETIC
		2.2	2.1	after	
Insignificance	0.49	6.5	31.5	Before	UREA
		13.1	33.4	after	
Insignificance	0.64	0.5	4.6	Before	RBC
		0.8	4.4	after	

Figure VII. Total comparison of indices before and after treatment.

IV. Discussion

Dapsone DDS (di-amino diphenyl sulfone) is one of the drugs used to treat various skin diseases in many years ago. The drug and treatment of pemphigus in past years for single or limited number of patients with systemic corticosteroids are the case and has been used successfully [16]-[17], But none of these controlled studies are not comprehensive. Given the importance of this issue and also the cost and availability of dapsone and usability Other treatments for pemphigus in children who have problems due to complications with the other side being largely known Given the long history of prescription drug side effects in various diseases and preventable nature of most of them with careful monitoring of patients undergoing this treatment may be needed [18]-[19] In general, given the side effects and long-term high-dose systemic corticosteroids with or without immunosuppressive drugs play In pemphigus and mortality and morbidity resulting from the use of adjuvant cure with fewer side effects such as prolonged dapsone to control and faster recovery of patients needed dose reduction Systemic corticosteroids significant indicated in a shorter time waste and ultimately improving the quality of life of patients can have an important role [20]-[21]. Dapsone was synthesized in 1908 and 1950 by Wittman and fromm a great discovery in the field of sulfone was conducted in dermatology. The use of dapsone in the treatment of pemphigus vulgaris first reported in 1960 by Winkelman and Roth [16]. In a case study of 1998 children aged 5 years in the treatment of pemphigus, prednisolone, dapsone can cause a rapid remission for a year and seven months [22]. In the retrospective study of 2005 Stroid sparng effect of dapsone in pemphigus treated with systemic with or without immunosuppressive able to taper off systemic review is not without exacerbation. 9 patients with pemphigus vulgaris during the three months before the start of dapsone were able to reduce the dose of systemic corticosteroids or had active disease systemic corticosteroid therapy were 7 patients with uncontrolled systemic corticosteroids were able to reduce the dose by as much as 67% after four months and as much as 84% after eight months of treatment were maximum dose dapsone As a result dapsone is effective in reducing dependence on steroids and recommend future studies confirm these findings [19].

V. Conclusion

Our findings show that there was no significant difference in serum levels of SGOT, SGPT, UREA, BUN and Creatinine before and after receiving dapsone in patients with Pemphigus Foliaceous.

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