

Comparison of urticaria activity score over 8 weeks in chronic idiopathic urticaria after methotrexate treatment

Ketki S Chavanda¹, Ajay G Ovhal^{2*}, Jerajani HR³, Satish Udare⁴

¹Assistant Professor, ²Associate Professor, Department of Skin and VD, Government Medical College, Latur, Maharashtra, INDIA.

³Professor and HOD, ⁴Professor, Department of Dermatology, MGM institute of health sciences, Kamothe, Navi Mumbai, Maharashtra, INDIA.

Email: drajayovhal@gmail.com

Abstract

Background: Urticaria is a common condition observed commonly in dermatology OPD. UAS is used to assess effect of methotrexate on chronic urticaria patients. **Aim and Objective:** to compare Urticaria Activity Score over 8 weeks in chronic idiopathic urticaria after methotrexate treatment **Methodology:** Total 60 patients were studied who had history of 6 weeks or more of urticaria. Data was collected using pretested questionnaire. Data regarding detailed history, clinical examination and investigations. All patients were treated with methotrexate. Effect of methotrexate was assessed with UAS. Data was analysed with appropriate statistical tests. **Results and Discussion:** At the end of 8 weeks of methotrexate therapy, there was decline in the mean UAS of all the patients compared to baseline 5.97 (SD ± 1.87) and at 8 weeks 0.35 (SD± 0.57) which was statistically significant (P < 0.001) proving efficacy of the treatment.

Key Words: chronic idiopathic urticaria.

*Address for Correspondence:

Dr. Ajay G Ovhal, Associate Professor, Department of Skin and VD, Government Medical College, Latur, Maharashtra, INDIA.

Email: drajayovhal@gmail.com

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INTRODUCTION

Urticaria is an outbreak of swollen, pale red bumps or plaques (wheals) on the skin that appear suddenly either as a result of the body's reaction to certain allergens, or for unknown reasons. It can appear anywhere on the body, including the face, lips, tongue, throat, or ears. Hives vary in size (from a pencil eraser to a dinner plate), and may join together to form larger areas known as plaques. Various triggers for urticaria are Medications, such as antibiotics (especially penicillin and sulfa), aspirin and

ibuprofen, Insect stings or Physical stimuli, such as pressure, cold, heat, exercise or sun exposure etc.

The duration of this condition varies from 1-5 years but it can last longer in cases of more severe forms like those associated with angioedema and autoreactivity.¹ Chronic urticaria (CU) is characterized by spontaneous occurrence of wheals, lines, and itching along with angioedema daily or almost daily for at least six weeks or more, without being related to a specific trigger or inducible factor.² Diagnosis of this condition is solely based on clinical examination and hence investigations based on detailed clinical history and examination are done.³ Urticaria is assessed with urticaria activity score (UAS). The UAS measures two symptoms-number of wheals and intensity of itching-each on a 0-3 scale each day. Present study was done to study UAS over 8 weeks in chronic idiopathic urticaria after methotrexate treatment.

MATERIAL AND METHODS

The study was conducted on 60 patients visiting dermatology department OPD diagnosed with chronic idiopathic urticaria.

Inclusion Criteria

1. Patients above the age of 18yrs
2. Patients having daily or almost daily episodes of urticarial wheals > 6 weeks
3. Patient is willing to be part of study after informed consent

Exclusion Criteria

1. Patients having physical urticaria.
2. Patients having food allergy and urticaria of known cause.
3. Patients having positive ANA test.
4. Patients having raised serum IgE levels.
5. Pregnant women and lactating mothers.
6. Immunocompromised patients
7. Patients on immunosuppressive drugs.

Study was approved by ethical committee of institute. A valid written consent was taken from patients after explaining study to them.

All patients were interviewed and data was collected with pretested questionnaire. Data included detailed history, clinical examination. Patient underwent investigations like CBC, ESR, blood sugar tests, liver function tests, renal function tests, serum IgE levels, thyroid function tests, ANA and ASST (Autologous serum skin test). A test dose of tablet methotrexate of 2.5mg was given first to every patient and complete blood count was repeated after 7 days. If the blood counts were normal patient was started on methotrexate therapy. Methotrexate was given in the dose of 5mg BD weekly for 8 weeks and on remaining six days folic acid 5mg OD was given to all patients. The patients were assessed at 2, 4, 6 weeks after starting treatment and at 8 weeks after completion of treatment by UAS.

Pruritus Severity Score was assessed as Absent = 0, Present but not disturbing = 1, Disturbing but not hampering day time activity or sleep = 2, Hampering day time activity or sleep = 3

Wheal Score (average no of wheals in 24 hours) it was assessed as Absent =0, Less than 20 wheals = 1, 20 -50 wheals = 2, >50 wheals = 3 **Wheal size (maximum in number):** was ased as Absent=0, < 1cm = 1, 1-3 cm= 2, Larger than 6cm=3 Score was calculated and data analysed with appropriate statistical tests.

RESULTS

A total of 60 patients with chronic idiopathic urticaria who fulfilled the inclusion criteria were selected and subjected to methotrexate therapy.

Table 1: Distribution of patients according to Age and Sex

Age	Sex		Total
	Male	Female	
Less than 20 Years	2	3	5
	40.0%	60.0%	100.0%
20-30 Years	6	10	16
	37.5%	62.5%	100.0%
30-40 Years	12	8	20
	60.0%	40.0%	100.0%
40-50 Years	4	7	11
	36.4%	63.6%	100.0%
50 Years and above	7	1	8
	87.5%	12.5%	100.0%
Total	31	29	60
	51.7%	48.3%	100.0%

The mean age of patients in the study was 38.87±3.6 years . Most of the patients, 20 out of 60 (33.33%) were in age group of 30 years to 40 years. This was followed by 16 patients (26.67%) in age group of 20 years to 30 years. 8 patients were (13.33%) in above 50 years. (table 1) Out of the total patients in our study, 31 out of 60 (51.7%) were males and 29 out of 60 (48.3%) were females. Maximum number of males, 12 out of 31 (38.70%) were in 30 years to 40 years age group while maximum number of females, 10 out of 29 (34.48%) were in 20 years to 30 years age group. (table 1) In our study 53(88.33%) patients presented with itching and wheals as their chief complaints and 7 (11.67%) were having history of angioedema along with itching and wheals. Out of 60 patients, 40 patients (66.7%) were ASST negative and out of 60 patients 20 patients (33.3%) were ASST positive. In our study the mean value of duration of illness (urticaria) in positive ASST patients was 4.3 years (SD± 4.001) and in in patients with negative ASST was 5.6 years (SD± 4.008)

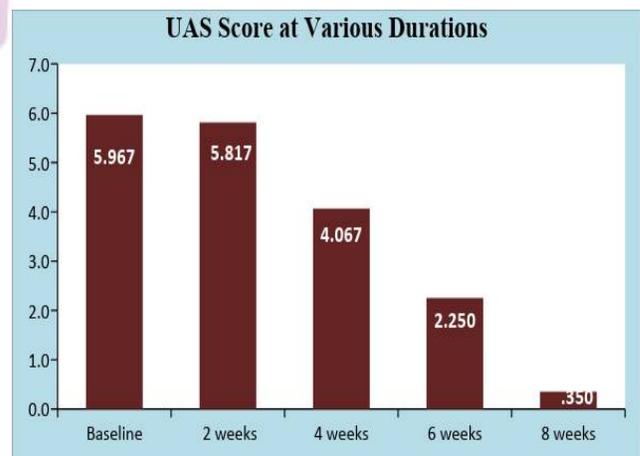


Figure 1: USA score at various durations after methotrexate treatment

Above table shows difference in the mean UAS after methotrexate therapy in all patients. The mean UAS at baseline was 5.967 (SD ±1.877), at 2 weeks was 5.817

(SD±1.953), at 4 weeks was 4.067 (SD±1.686), at 6 weeks was 2.250 (SD±1.216) and at 8 weeks it was 0.350 (SD±0.577). The difference in the mean urticaria activity score (UAS) at baseline and at 8 weeks was analyzed by using ANOVA test which was highly significant ($p < 0.001$). (fig 1)

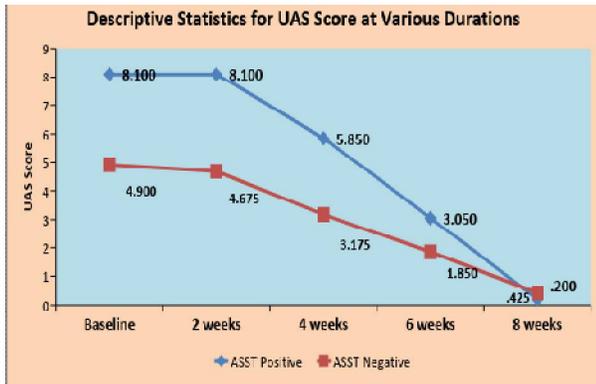


Figure 2: Descriptive statistics for UAS score at various duration in ASST positive and negative patients

We observed that there was significant difference in the mean urticaria activity score at baseline and at 8 weeks in both ASST positive and ASST negative patients but the significance was more in ASST positive patients compared to ASST negative patients which can be seen in above graph. (fig 2)

DISCUSSION

In present study, the mean age of the patients was . In the present study male to female ratio was almost equal 1.06. Similar results were observed in previous study.^{4,5} study done by Caproni M *et al* had female to male ratio of 2.09: 1⁶. The proportion of patients with CIU who showed a positive reaction to ASST was 33.33%, which is comparable with earlier reports⁷ In our study 53(88.33%) out of 60 patients presented with itching and wheals as their chief complaints and 7 (11.67%) out of 60 were having history of angioedema along with itching and wheals. In a similar study done by Sabroe *et al*. angioedema occurred in 93 (86.91%) out of 107 cases⁶⁷. Angioedema occurred in 15 of 100 patients in a study done by Mamatha G *et al*⁴ In this study, the mean value of urticaria activity score (UAS) at baseline in patients with positive ASST was 8.10 and the mean value of UAS in ASST negative patients was 4.90. The UAS at baseline was more in ASST positive patients as compared to ASST negative patients indicating more severity of illness in ASST positive patients similarly Caproni M *et al* also noted that the pruritus score was more in ASST positive patients (52 %) and were having more severe urticaria than ASST negative patients (7%)⁶. Vohra S *et al* also found higher mean UAS (6.13 ± 1.6) in positive ASST patients compared to ASST negative (5.13 ± 1.6)

($p < 0.001$)⁵. In our study, the mean UAS of all the patients both ASST positive and ASST negative at baseline was 5.967, at 2 weeks 5.817, at 4 weeks 4.067, at 6 weeks 2.25 and at 8 weeks it was 0.350 .The difference in the mean urticaria activity score (UAS) at baseline and at 8 weeks was statistically highly significant ($p < 0.001$). There was decline in the UAS with the duration thus proving efficacy of methotrexate in both groups. Similar to our study previous studies also showed efficacy of methotrexate in treating chronic urticaria. Where methotrexate in dose of 15mg/week was used in and patient showed improvement.^{8,9} The effects of methotrexate on neutrophil adhesion and accumulation and leukotriene synthesis, may be relevant to chronic urticaria rather than immunosuppression. Godse K reported 4 cases of chronic idiopathic urticaria with positive ASST, not responding to antihistamines, were treated with methotrexate 10mg/ week for 2 months responded very well. After methotrexate therapy, urticaria was controllable with only antihistamines in 3 out of 4 patients¹⁰.

CONCLUSION

At the end of 8 weeks of methotrexate therapy, there was decline in the mean UAS of all the patients compared to baseline 5.97 (SD ± 1.87) and at 8 weeks 0.35 (SD± 0.57) which was statistically significant ($P < 0.001$) proving efficacy of the treatment.

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