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ORIGINAL ARTICLE

Clinico Epidemiological Study of Autoimmune Urticaria in a Tertiary Care Center

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ABSTRACT:

Background: Chronic urticria has a wide range of clinical presentations and etiologies. Such cases have associated autoimmune diseases, high wheal and itch score and presence of associated systemic symptoms. Managing cases of autoimmune urticaria still remains a dilemma. Immunosuppresive drugs are useful in some cases but their use is limited because of side effects and prolonged therapy. The present study was conducted with the aim to determine the clinic epidemiological features of patients with positive and negative ASST. **Materials and methods:** The present prospective study was conducted in the Department of Dermatolgy, Venereology& Leprology Moti Lal Medical College Allahabad (U.P.) Institute. The study was conducted over a period of one year i.e. from may 2014 to June 2015. All the cases of chronic urticaria irrespective of caste, gender aged between 18-60 years were included in the study. Complete history including all the demographic detail was obtained from all the patients. Thorough clinical examination was done along with complete blood and urine evaluation. ASST was performed in all the patients after weaning them from antihistaminics, steroids or immunosuppresants. The details of the patients were arranged in a tabulated form and analysed using SPSS software. Two tailed t test was used for statistical analysis. Probability value of less than 0.05 was considered significant. **Results:** There were 22 males and 18 females in ASST positive group. In ASST negative group, there were 28 males and 12 females. The mean duration of disease was 22.45 +/- 9.53 and 16.33 +/- 9.79 in ASST positive and negative group respectively. Out of 110 subjects, 45 were ASST positive and 65 were ASST negative. In 18-27 year age group, there were 31.1% (n=14) subjects who belonged to ASST positive group and 26.2% (n=17) subjects who belonged to ASST negative group. One patient in ASST positive group had headache. 4 patients in ASST positive and 3 patients in ASST negative group had arthralgia. **Conclusion:** From the above study we can conclude that there was no significant difference in the clinicoepidemiological parameters of autoimmune urticaria and chronic urticaria.

Keywords: Autoimmune, Epidemiological, Prospective, Urticaria.

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INTRODUCTION

Chronic urticria has a wide range of clinical presentations and etiologies. In about 50% of the cases of chronic urticaria there is presence of Ig G autoantibodies which are directed against Ig E or receptors on Ig E which are present on basophils or mast cells. These cases of chronic urticaria are termed as autoimmune urticaria. Such cases have associated autoimmune diseases, high wheal and itch score and presence of associated systemic symptoms.[1,2,3] Finally there is release of granules from basophils and mast cells which contain histamine and this histamine is detected using autologous serum skin test. These also occur naturally in healthy individuals and trigger histamine release only on binding to Ig E receptors.[4] Such patients need high dose of antihistaminics and systemic corticosteroids during periods of acute exacerbations, therefore timely diagnosing such patients become necessary. Clinically it is difficult to distinguish between chronic urticaria and autoimmune urticaria. Diagnosis is solely based on clinical examination and autologous serum skin test. Autoimmune urticaria and chronic urticaria are also indistinguishable histopathologically, the only difference being that the granular infiltrate is more intense in autoimmune urticaria.[5,6]

Majority of the studies rely on histamine release assays for correlating severity of urticaria and histamine releasing activity. Use of autologous serum skin test is a good predictor of autoimmune urticaria. The sensitivity and specificity of autologous serum skin test is 70% and 80% respectively for invitro histamine release by basophil.[7,8] Managing cases of autoimmune urticaria still remains a dilemma. Immunosuppresive drugs are useful in some cases but their use is limited because of side effects and prolonged therapy. The present study was conducted with the aim to determine the clinic

epidemiological features of patients with positive and negative ASST.

MATERIALS AND METHODS

The present prospective study was conducted in the Department of Dermatolgy, Venereology& Leprology Moti Lal Medical College Allahabad (U.P.) Institute. The study was conducted over a period of one year i.e. from may 2014 to June 2015. All the cases of chronic urticaria irrespective of caste, gender aged between 18-60 years were included in the study. Pregnant and lactating mothers, presence of food or drug allergy, medically compromised patients were excluded from the study. Ethical committee clearance was obtained from the Institute's ethical board prior to initiation of the study. All the subjects were informed about the study and a written consent was obtained from all in their vernacular language. Complete history including all the demographic detail was obtained from all the patients. Thorough clinical examination was done along with complete blood and urine evaluation. ASST was performed in all the patients after weaning them from antihistaminics, steroids or immunosuppresants.

Procedure- under complete aseptic conditions, 2 ml of blood was obtained from anticubital vein and allowed to clot in a plain tube. Later on it was centrifuged at 2000 rpm for 10 minutes. On the volar aspect of forearm 0.05ml of serum was injected intradermally. Approximately 5 cm away from the serum injection, similar amount of saline was injected. The area was checked for wheal and flare response after a period of 30 mins. If the serum induced a wheal of more than 1.5 cm then it was considered a positive response.

The details of the patients were arranged in a tabulated form and analysed using SPSS software. Two tailed t test was used for statistical analysis. Probability value of less than 0.05 was considered significant.

RESULTS

Table 1 shows the demographic details of the subjects. There were 22 males and 18 females in ASST positive group. In ASST negative group, there were 28 males and 12 females. The mean duration of disease was 22.45 +/- 9.53 and 16.33 +/- 9.79 in ASST positive and negative group respectively. The urticaria score was obtained by adding number of wheals, frequency and intensity of itching. It was 5.07 +/- 1.11 in ASST positive group and 4.19 +/- 1.67 in ASST negative group. Associated symptoms were seen in 9 subjects of ASST positive group and 6 subjects of ASST negative group. Abnormal thyroid function tests were seen in 5 ASST positive and 2 ASST negative patients. There was no significant difference in details between both the groups.

Table 2 shows the age distribution of patients in both the groups. Out of 110 subjects, 45 were ASST positive and 65 were ASST negative. In 18-27 year age group, there were 31.1% (n=14) subjects who belonged to ASST positive group and 26.2% (n=17) subjects who belonged to ASST negative group. There were 20 subjects in ASST positive group that were aged between 28-37 years and 27 subjects in ASST negative group that were of similar age. There were 7 (15.6%) subjects in ASST positive group that were aged between 38-47 years and 13 (20%) subjects in ASST negative group that were of similar age. In 48-60 year age group, there were 0.9% (n=4) subjects who belonged to ASST positive group and 12.3% (n=8) subjects who belonged to ASST negative group.

Table 3 elaborates the symptoms associated with urticaria. One patient in ASST positive group had headache. 4 patients in ASST positive and 3 patients in ASST negative group had arthralgia. Abdominal pain was seen in 2 patients of ASST positive and negative group. Fever was seen in 2 patients of ASST positive and 1 patient of ASST negative group. There was no significant difference in symptoms between the two groups.

Table 1: Demographic details of the subjects

VARIABLE	ASST POSITIVE GROUP	ASST NEGATIVE GROUP	P value
Gender			
Males	22	28	>0.05
Females	18	12	>0.05
Mean duration of disease	22.45±9.53	16.33±9.79	>0.05
Urticaria activity score	5.07±1.11	4.19±1.67	>0.05
Associated symptoms			
Present	9	6	>0.05
Absent	31	34	>0.05
Thyroid dysfunction	5	2	>0.05

Table 2: Age distribution of patients

AGE RANGE	ASST POSITIVE GROUP	ASST NEGATIVE GROUP
18-27	14(31.1%)	17(26.2%)
28-37	20(44.44%)	27(41.5%)
38-47	7(15.6%)	13(20%)
48-60	4(0.9%)	8(12.3%)
Total	45(100%)	65(100%)

Table 3: Systemic symptoms associated with urticaria

SYMPTOMS	ASST POSITIVE GROUP	ASST NEGATIVE GROUP	P value
Headache	1	0	>0.05
Arthralgia	4	3	>0.05
Abdominal pain	2	2	>0.05
Belching	0	0	>0.05
Fever	2	1	>0.05
Breathlessness	0	0	>0.05
Total	9	6	

DISCUSSION

Measurement ofhistamine release from target basophils is considered as the gold standard test for identification of chronic autoimmune urtricaria. But it is time consuming and not widely available. In the present study we try to establish the effectiveness of ASST in detecting cases of autoimmune urticaria and give the clinicoepidemiological detail of the subjects. In our study, there were 22 males and 18 females in ASST positive group. In ASST negative group, there were 28 males and 12 females. Associated symptoms were seen in 9 subjects of ASST positive group and 6 subjects of ASST negative group. Abnormal thyroid function tests were seen in 5 ASST positive and 2 ASST negative patients. There was no significant difference in details between both the groups. In our study there were 40.9% subjects who were ASST positive and 59.1% subjects who were ASST negative. These results were similar to results obtained by previous studies i.e. 39.6% to 46%.[9,10] In a study conducted by Parmod D et al, there were 40% of the patients who were were ASST positive and 60% were ASST negative.[11] In a study conducted by S. Vohra et al, higher percentage of females who were ASST positive as compared to males. There were 76% females who were ASST positive.[12]

In our study, the mean duration of disease was 22.45 +/- 9.53 and 16.33 +/- 9.79 in ASST positive and negative group respectively. The urticaria score was obtained by adding number of wheals, frequency and intensity of itching. It was 5.07 +/- 1.11 in ASST positive group and 4.19 +/- 1.67 in ASST negative group. In a study conducted by Sabroe *et al,*[13,14] at two different times and two different studies, there was no significant variation in the epidemiology of ASST positive and ASST negative groups. The mediandurationof urticaria was 10 months in their ASST positive patients, and less than 22 months among patients who were ASST negative. In our study, one patient in ASST positive group had headache. 4 patients in ASST positive and 3 patients in ASST negative group had arthralgia. Abdominal pain was seen in 2 patients of ASST positive and negative group. Fever was seen in 2 patients of ASST positive and 1 patient of ASST negative group. There was no significant difference in symptoms between the two groups. The results of our study were similar to a study conducted by Pramod D et al.[11] In another study conducted by Juhlin, patients with ASST positive results had significantly higher proportion of systemic symptoms associated with them as compared to ASST negative subjects.[15] In our study, Out of 110 subjects, 45 were ASST positive and 65 were ASST negative. In 18-27 year age group, there were 31.1% (n=14) subjects who belonged to ASST positive group and 26.2% (n=17) subjects who belonged to ASST negative group. There were 20 subjects in ASST positive group that were aged between 28-37 years and 27 subjects in ASST negative group that were of similar age. There were 7 (15.6%) subjects in ASST positive group that were aged between 38-47 years and 13 (20%) subjects in ASST negative group that were of similar age. In 48-60 year age group, there were 0.9% (n=4) subjects who belonged to ASST positive group and 12.3% (n=8) subjects who belonged to ASST negative group. In a study conducted by Parmod D et al, majority of the subjects belonged to 28-37 years of age both in ASST positive and ASST negative group.[11] ASST is a simple, less invasive tool that should be widely used for the diagnosis of autoimmune urticaria.

CONCLUSION

From the above study we can conclude that there was no significant difference in the clinicoepidemiological parameters of autoimmune urticaria and chronic urticaria. ASST is an valuable asset in diagnosing cases of sutoimmune urticaris.

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