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Original Research Paper

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AUTOLOGOUS SERUM THERAPY IN CHRONIC SPONTANEOUS URTICARIA: A PROSPECTIVE STUDY FROM A TERTIARY CARE CENTRE IN SOUTH INDIA

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ABSTRACT

Background: Chronic spontaneous urticaria (CSU) is a common persistent dermatological disorder characterized by wheals and itching. It has an underlying autoimmune basis with significant impact on quality of life. Autologous serum therapy (AST) has been proposed as an economical alternative immunomodulatory intervention for CSU. **Objective:** To evaluate the effectiveness and safety profile of AST in patients with CSU. **Methods:** A prospective interventional study was conducted on 60 CSU patients in a tertiary care hospital. Weekly intramuscular injections of autologous serum were administered weekly for 8 weeks. Disease activity of CSU was assessed by recording the Urticaria Activity Score over 7 days (UAS7). **Results:** A statistically significant reduction in UAS7 scores was observed from baseline to week 12 ($p < 0.001$) in CSU patients. Complete remission was achieved in 35% of patients, while 45% showed partial remission. No major adverse events were reported during the study. **Conclusion:** AST appears to be a very safe, cost-effective therapeutic option for CSU, particularly relevant in low resource settings.

KEYWORDS : Chronic spontaneous urticaria, autologous serum therapy, immunotherapy

INTRODUCTION

Chronic spontaneous urticaria (CSU) is a dermatological condition characterized by the recurrent appearance of wheals, angioedema, or both for more than six weeks without a known trigger. The condition significantly affects quality of life, sleep, general health and psychological well-being.

Autoimmunity plays an important role in a subset of CSU patients, where functional autoantibodies against FcεRI or IgE receptors lead to mast cell degranulation. Autologous serum therapy (AST) involves the intramuscular injection of the patient's own serum has now emerged as a low-cost immunomodulatory treatment option, particularly in resource poor settings.

Despite the growing interest, evidence from South Indian populations remains limited. This study aims to evaluate the effectiveness and safety of AST in CSU patients attending a tertiary care centre.

AIM OF THE STUDY

To evaluate the clinical efficacy and safety profile of autologous serum therapy in patients with chronic spontaneous urticaria.

Objectives

1. To assess the reduction in urticaria severity using Urticaria Activity Score (UAS7).
2. To determine the proportion of CSU patients achieving complete or partial remission.
3. To evaluate the safety profile and tolerability of AST in CSU patients.

Inclusion Criteria

- Patients aged 18–60 years
- Diagnosed with chronic spontaneous urticaria (>6 weeks duration of disease)
- Compliant to participate and provide informed consent
- Patients with poor response to regular antihistamine therapy

Exclusion Criteria

- Physical urticaria (e.g., cholinergic, cold-induced urticaria)
- Urticarial vasculitis
- Pregnant or lactating women
- Patients on systemic immunosuppressive therapy
- Presence of severe systemic illness
- Known malignancies or coagulation disorders

Materials and Methods

Study Design:

Prospective interventional study.

Study Setting:

Department of Dermatology, tertiary care hospital in South India.

Study Duration:

12 months.

Sample Size:

60 patients diagnosed with CSU.

Procedure

- Baseline evaluation including detailed history, clinical examination, and UAS7 scoring.
- 5 ml of patient's venous blood collected under aseptic conditions.
- Blood is centrifuged at 3000 rpm for 10 minutes to separate serum.
- 2 ml of autologous serum is injected intramuscularly into the gluteal region weekly for 8 weeks.
- Patients followed up at week 4, week 8, and week 12.

Outcome Measures

- UAS7 score reduction
- Patient-reported improvement

Statistical Analysis

- Data is analyzed using SPSS software.
- Continuous variables are expressed as mean ± standard deviation.
- Categorical variables are expressed as percentages.
- Paired t-test has been used to compare baseline and post-treatment UAS7 scores.
- p-value < 0.05 is considered statistically significant.

Table 1

Variable	Value
Total patients	60
Mean age (years)	33.5 ± 10.3

Male: Female ratio	1:1.6
Mean disease duration	9.2 ± 3.2 months
ASST positive patients	40%

Table 2

Time Point	Mean UAS7 Score	p-value
Baseline	28.3 ± 6.1	—
Week 4	18.5 ± 5.3	<0.001
Week 8	10.1± 4.8	<0.001
Week 12	6.4 ± 3.8	<0.001

Table 3

Response Category	Percentage
Complete remission	35%
Partial response	45%
No response	20%

RESULTS

60 cases of chronic spontaneous urticaria were enrolled, with female predominance. The mean baseline UAS7 score was 28.3 which indicates the severe disease activity.

Following AST:

- Significant reduction in UAS7 scores were seen at weeks 4, 8, and 12 ($p < 0.001$).
- 35% of CSU patients achieved complete remission with Autologous serum therapy, while 45% showed partial improvement with AST.
- The response was better in ASST-positive patients.
- No serious adverse side effects were reported in the study. Very few patients had injection site pain which was very mild and resolved within minutes.

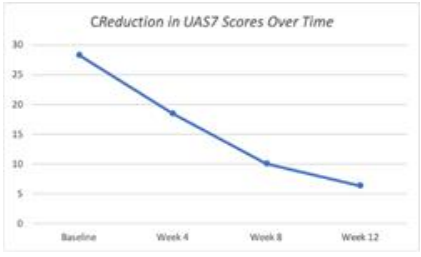

Figure 1 Reduction in UAS7 score over 12 weeks

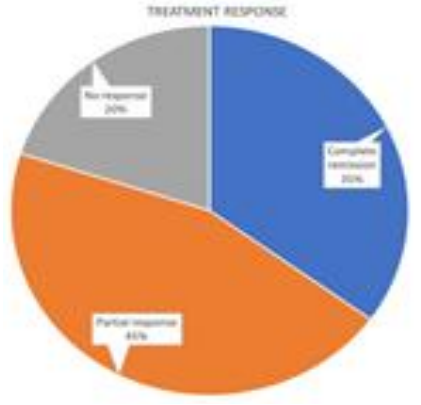

Figure 2 Pie Chart – Treatment Response

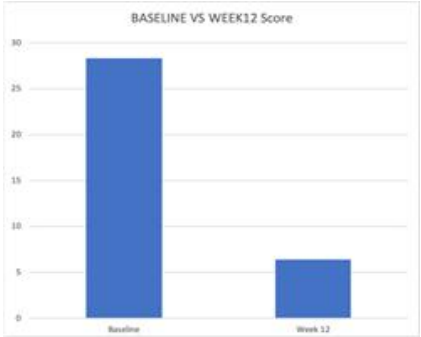

Figure 3 baseline vs wk 12 UAS7 score bar diagram

DISCUSSION

The findings from the study demonstrates that AST results in significant clinical improvement and reduces disease activity in CSU patients. The continuous decline in UAS7 scores in CSU patient across the follow-up visits indicates sustained clinical improvement with AST. The mechanism of AST involves immune desensitization. The AST response is attributed to the immunomodulatory effects on circulating autoantibodies in CSU patients. AST is a very much affordable alternative in a low resource setting, when compared to costly biologicals. The treatment is very well tolerated with no significant adverse effects.

The limitations of the study include short follow-up duration and the absence of a control group.

CONCLUSION

Autologous serum therapy is a promising treatment modality with good efficacy and safety in the management of chronic spontaneous urticaria. It is a valuable treatment option in settings particularly where advanced therapies is not available for chronic urticaria.

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