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Therapeutic Effectiveness of Siddha Leech Therapy (*Attai Vedal*) in Managing Chronic Urticaria: A Clinical Case Report

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ABSTRACT:
Chronic urticaria, known as *Kaanakadi* in Siddha medicine, is a persistent condition characterised by pruritic wheals, angioedema, or both lasting for more than one month. This case report presents a 37-year-old male with a 4-year history of recurrent cutaneous allergic reactions, manifesting as widespread urticarial wheals, mild angioedema, and rhinitis. The patient's symptoms were refractory to conventional treatments, including antihistamines and corticosteroids. Siddha medicine attributes the pathophysiology of chronic urticaria to gastrointestinal imbalance and psychological factors. The patient underwent Siddha management to alleviate symptoms associated with *Pitham* and *Kabham*. Siddha leech therapy is considered a promising treatment for dermatological conditions. Along with oral medication and three sessions of Siddha leech therapy with a gap of 6 days between sessions over 24 days, the patient experienced significant alleviation of pruritus, rash formation, and irritability. No adverse reactions were observed at the site of the leech therapy. Recent studies have demonstrated that leech saliva contains bioactive peptides and proteins with antithrombotic, antiplatelet, and antimicrobial properties. A systematic review indicated that bloodletting was more efficacious than pharmaceutical interventions in managing chronic urticaria, with comparable response rates and no significant adverse events. This case highlights the potential of Siddha leech therapy as an adjunctive treatment for chronic urticaria refractory to conventional management.

KEY WORDS: Chronic Urticaria, *Kaanakadi,* Leech Therapy, Siddha Medicine.

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INTRODUCTION:

Kaanakadi, the Siddha medicine term for chronic urticaria, manifests as persistent itchy wheals (*Arippu*), angioedema (*Naala Allarchi*), or a combination of both, lasting over a month. *Kanakadi* can be attributed to internal and external factors, such as dietary habits, environmental conditions, and insect bites, common triggers for CU symptoms, with conditions linked to imbalances in the *Tirdosam* humoral-*Pitham* and *Kabham*. [1] In modern medicine, the manifestation of wheals and angioedema in Chronic urticaria is caused by mast cell degranulation. This process releases histamine, proteases, and cytokines while generating platelet-activating factors and arachidonic acid metabolites, including prostaglandin D2 and leukotrienes C4, D4, and E4. These mediators induce vasodilation, enhance vascular permeability, and stimulate sensory nerve endings, thereby resulting in swelling, redness, and pruritus.[2] Contemporary medical science divides chronic urticaria into two categories: chronic spontaneous urticaria and chronic inducible urticaria, encompassing physical and non-physical forms. This condition, affecting approximately 1% of individuals, can be either spontaneous or triggered by specific stimuli, such as cold or pressure, substantially impacting the quality of life and imposing significant emotional and social strain. Recent research indicates that 30-50% of chronic urticaria cases, previously deemed "idiopathic" (80-90%), may have autoimmune origins or be associated with mast cell and basophil abnormalities. Some cases have revealed potentially pathogenic autoantibodies that target the high-affinity IgE receptor. The roles of various inflammatory cells and pro-inflammatory cytokines in the development of chronic urticaria have also been recognised.[3] The current treatment protocol for chronic urticaria primarily involves antihistamines, with anti-immunoglobulin E antibodies as a secondary option. Integrative approaches, especially siddha leech therapy for chronic conditions, will open new avenues for treatment.

CASE HISTORY:

A 37-year-old male presented with complaints of rashes and pruritus that persisted throughout the day and night, accompanied by sleep disturbances for 10 days. The patient reported a history of periodic skin allergic reactions (occurring once every 2 months) over the past 4 years, for which he had previously been treated with antihistamines and steroids. The recurrence of skin rashes progressively spreads from the hands to the head, trunk, and thighs. medical history revealed no diabetes mellitus, hypertension, or any other chronic metabolic diseases. Rashes develop predominantly at midnight and are frequently associated with allergic rhinitis. Occasionally, the patient experienced dyspnea. Glucocorticosteroid therapy (prednisolone 75 mg/day) was initiated, and the patient was symptom-free. Over the next 20 days, the dose was reduced to 5 mg/day, after which symptoms recurred. At the subsequent visit, the patient remained on prednisolone 10 mg/day for partial relief and was taking antihistamines 2 times daily, but still exhibited severe wheals with pruritus. During the previous two episodes, the patient did not respond to antihistamine drugs or steroids. On the basis of the aforementioned symptoms, the patient sought siddha medical advice and treatment.
Clinical Findings: Physical examination revealed widespread urticarial wheals on the patient's trunk, back, and thighs. The lesions

were erythematous, raised, and pruritic in nature. Mild angioedema was observed in the face, especially in the lips. Ocular erythema was also observed. Mild rhinitis was also observed. The patient's vital signs were within normal limits and there were no signs of systemic involvement. No history of allergic foods/factors was observed.

*Enn Vagai Theyr*vu (eight tools of examination): Nadi:*Pitha Kabham*/moderate jumping pulse) Urine: yellow/normal, Stool: dark yellow coloured. Skin: dry, colour/complexion: dark brown, inflamed skin on the trunk, back, and both thighs; tongue, no coating; eyes, moderate reddish conjunctiva; and mouth, no abnormality.

Vitals; Weight:70 kg height:167cm

Bp:124/76 mmHg. Pulse rate: 79/min. Respiratory rate: 16/min,

Lab Investigation: Total WBC- 8056/ cumm IgE-210 ng/ml

Basophil -03/ cells, eosinophil - 7 cells, ESR- 28 /minute.

THERAPEUTIC INTERVENTION:

Siddha Management: *Kaanakadi* is a pathological condition characterized by a fundamental disruption in the equilibrium of *Pitham* and *Kabham*. Effective management of this ailment requires the administration of hepatic detoxification agents and medications specifically designed to alleviate *Kabham* imbalances. Siddha management is presented in Table 1.

Additionally, the patient was advised to identify and avoid potential triggers and to maintain a symptom diary. After the 15th day and one month of follow-up, 30% reduction in itching and rash formation was observed. The patient requested that further available treatment be free of itching, irritability, and anxiety in the workplace. We plan to administer traditional Siddha's leech therapy. The leech therapy session was planned according to the patient's constitution and affected area. Three rounds of leech therapy were administered for over 21 days(a total of 3 sessions) with a gap of 6 days between sessions. Leech therapy is shown in Figure 2, and see Table 2 for siddha leech therapy guidelines.

Table-1: Siddha treatment and its reference:

Medicine(Internal)	Dosage	Indication	Reference
Manjal noi kudineer	Decoction of 60 ml once a day in the morning on an empty stomach	Hepatoprotective &detoxification. Protects the *Agni*	The Siddha Formulary of India I
Peichori choornam	2 g with warm water twice a day	Urticaria, Skin diseases,ezcema	Chiktsarathna deepam
Siddhathi ennai	5 ml with warm water at bedtime.	Skin disease	The Siddha Formulary of India I
Palagarai param	200mg with buttermilk twice a day	Skin disorders Itching	The Siddha Formulary of India I

Table-2: Siddha Leech therapy protocol: [5]

Siddha Leech therapy protocol by step	
Patient Preparation before procedure	Advise the patient to get 8 hours of sleep the previous day. Advise not to take any medication before the procedure. Explain the entire procedure to the patient and the caregiver
Procedure	
1	Cleanse the area with unscented soap and rinse
2	Place a gauze with a hole over the treatment site
3	Guide the leech's head to the lesion area & use a sterile needle for a gentle prick if needed
4	Monitor the leech for 30 minutes until engorged
5	Remove the leech using salt or turmeric if necessary.
6	Allow post-treatment bleeding for 1-3 minutes.
7	Dress the site with a sterile pad and monitor for swelling or any reaction
8	Store used leeches separately for the same patient reuse periodically using turmeric powder. Prepare leeches for reuse by inducing vomiting
9	Proper dressing secured bandage, and with Mathan tailam, Instruct patients to avoid creams or perfumes at the treatment site
10	Advise the patient to avoid strenuous activity for 24 hrs and report adverse effects.
11	Apply medicated *Masikkai choornam or tripala choornam* to help manage excessive bleeding effectively.
Post Procedure Care	Recommend taking complete rest for 24 hours after the therapy session. Inform the doctor and their team of any discomfort/abnormal symptoms
Leech Management	The leeches used for the session will be soaked in water mixed with turmeric powder, and the used leeches will not be used for the next 6 days.

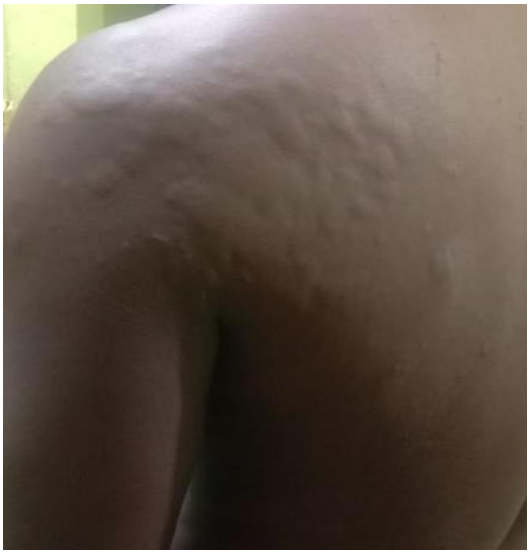

Figure- 1a: Wheals in the shoulder and back of the trunk

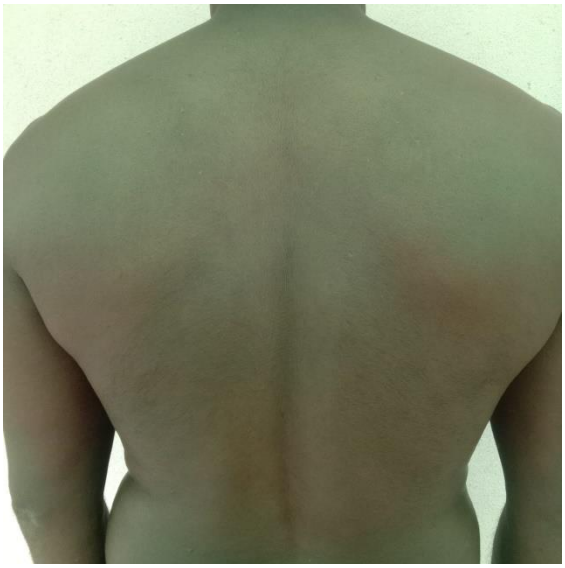

Figure-1b: post-treatment with no lesion

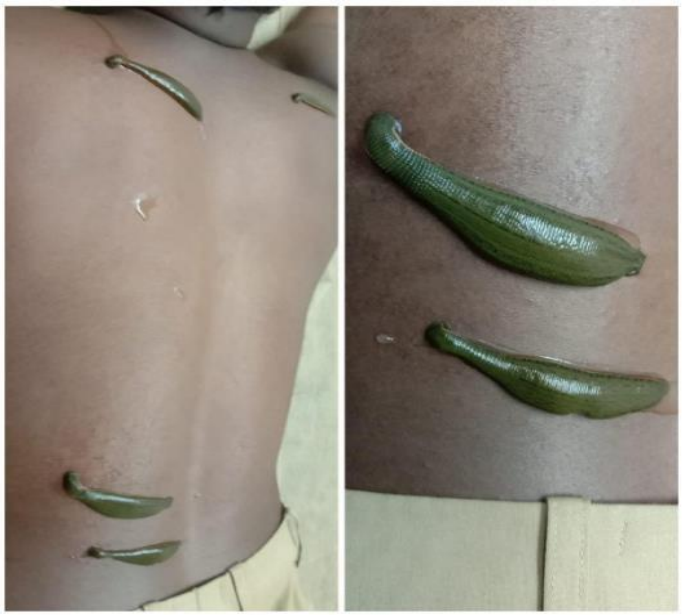

Figure-2: Leech administration on the affected site

RESULT AND DISCUSSION:

After the initial sitting, almost 60 per cent of the itching symptoms were reduced, and practically no symptoms were observed after the third sitting of leech application. The patient was free of rash, pruritus, and irritability. Three episodes of rhinitis were reported 9 months after the last leech therapy session. No adverse reactions were reported at the site of the leech therapy. The patient stopped taking the internal medication. Advisory to avoid triggering food and factors.

Chronic urticaria is challenging for physicians to treat using pharmacological options. Recent developments in treatment guidelines and immunoglobulins are treatment options. The pathophysiological aetiology of urticaria in the Siddha system of medicine is attributed to gastrointestinal imbalance and psychological factors. Acute urticaria is typically considered to be a disorder of the first *Thathu Saram*. If pathological *Amam* progresses to the blood tissue, a chronic manifestation develops. The initial plan to eliminate *Amam* through purgation (*virechanam*) and stabilising *Agni(metabolic/biological fire)* in the blood aimed at eliminating triggering factors from the blood (*Senner*). *Vilvam (*Aegle marmelos) leaf decoction was used to manage urticaria within one month of treatment in the Siddha system of medicine. Aegle marmelos has been demonstrated to possess antihistamine and anti-inflammatory properties. In the Siddha system, non-responding chronic resistant skin diseases, such as eczema, psoriasis, and urticaria, are treated through leech therapy, which is part of Siddha Surgical Medicine (*Siddha Aruvai Maruthuvam*).[4] Some case studies have been published on leech therapy for eczema and chronic skin disease. Traditional Siddha leech therapy (*Attai Vedal)* incorporates the concepts of *thithi* and *amirtha* status as well as the affected body portion of the patient. Considering these factors, the therapy was planned accordingly. Chronic eczema that is unresponsive to internal medications has been treated with leech therapy.[5]

Contemporary investigations of leech saliva have revealed a multifaceted composition of

bioactive peptides and proteins. These include antithrombin agents (hirudin and bufrudin), antiplatelet compounds (calin and saratin), factor Xa inhibitors (lefaxin), and antimicrobial substances (theromacin and theromyzin), among other constituents. This understanding has renewed interest in leeches as a therapeutic approach for various chronic and severe medical conditions, including cardiovascular disorders, malignancies, metastatic processes, and infectious diseases.[6]

An unblinded clinical study demonstrated that applying leeches to patients with eczema substantially alleviated symptoms, including redness, swelling, weeping, scratching, and skin thickening. Additionally, the participants' quality of life was markedly enhanced following leech treatment. It is also important to be cautious not to administer clotting abnormalities or immune-compromised. A systematic review and meta-analysis revealed that bloodletting demonstrated superior efficacy compared to pharmaceutical interventions in managing chronic urticaria (MD 0.67, 95% CI 0.03 to 1.31), with comparable response rates (RR 1.10, 95% CI 0.97-1.26). When employed as an adjunctive therapy, bloodletting significantly augmented the effectiveness of pharmaceutical treatments (RR 1.34, 95% CI 1.10-1.63). Notably, no significant adverse events were reported in association with this intervention.[7]

The Siddha approach to chronic urticaria considers both physical and psychological factors, addressing gastrointestinal imbalances and stress as potential contributors to the condition. This holistic perspective may offer additional benefits in managing complex, chronic conditions like urticaria.

CONCLUSION:

This case report demonstrates the successful management of chronic urticaria using Siddha medicine, particularly leech therapy, in a patient who had not responded adequately to conventional treatments. The significant improvement in symptoms and lack of adverse effects suggest that Siddha leech therapy may be a promising adjunctive treatment for chronic urticaria. Further research, including randomized controlled trials, is warranted to establish the efficacy and safety of this approach in a larger patient population.

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Limitation of the study:

As we had a single case study with detailed information, including pictures, and we didn't follow the UAS score for grading the lesions.

Informed written consent of the patient:

The consent from the patient was duly taken for publication

Conflict of interest: The author declares that there is no conflict of interest.

Guarantor*:* The corresponding author is the guarantor of this article and its contents.

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