RESEARCH PAPER

Siddha Management of Streptococcal Infection–Induced Erythema Nodosum With Cervical Lymphadenitis in a Pediatric Patient: A Case Report

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ABSTRACT

Background: Erythema nodosum (EN) is a hypersensitivity-mediated panniculitis that may follow infections such as Streptococcus pyogenes. Cervical lymphadenitis may accompany or precede EN due to immune activation. While modern treatment emphasizes antibiotics and anti-inflammatory drugs, Siddha medicine provides a holistic approach targeting Tridosha balance and immune restoration.

Case Presentation: A 12-year-old boy presented to the Department of Kuzhanthai Maruthuvam, National Institute of Siddha, with painful reddish nodules over both shins and a tender swelling over the left side of the neck for one month. The child had fever since the onset of swelling, mild to moderate grade, with daily intermittent spikes. There was no history of chills, abdominal pain, vomiting, joint pain, or other systemic complaints. He was previously treated in a private hospital with oral antibiotics for 9 days, following which erythema nodosum was diagnosed. Investigations revealed elevated ESR (52 mm/hr), raised CRP (56 mg/dL), and biopsy-confirmed erythema nodosum (septal and mild lobular panniculitis). ASO titre was 58 IU/mL, Mantoux and CB-NAAT were negative, and tissue culture showed no bacterial growth. Ultrasonography revealed a hypoechoic collection (4.8 × 2.5 cm) deep to the left sternocleidomastoid, suggestive of cervical nodal abscess.

Outcome: Within one week, the child regained the ability to walk independently. After two weeks, the nodules regressed, and the neck swelling reduced significantly. At the end of three weeks, the nodules completely resolved without recurrence, and the abscess subsided without surgical drainage.

Conclusion: This case demonstrates the efficacy of Siddha management in resolving erythema nodosum with associated lymphadenitis by restoring Azhal-Iyyam equilibrium and supporting immune balance. Siddha formulations may offer a safe integrative alternative in pediatric inflammatory dermatoses and lymphadenitis.

Keywords: Siddha medicine, Erythema nodosum, Cervical lymphadenitis, Streptococcal infection, Pediatric inflammatory disorders, Bramanatha Bairavam

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Introduction

Erythema nodosum (EN) is the most common form of panniculitis and represents an acute inflammatory disorder of the subcutaneous fat characterized by the sudden onset of tender, erythematous nodules, predominantly over the anterior tibial region (1). It is widely regarded as a type IV delayed hypersensitivity reaction triggered by various antigenic stimuli, including bacterial infections, autoimmune conditions, inflammatory bowel disease, and certain medications

(2). In the pediatric population, streptococcal infection remains the leading identifiable cause, followed by tuberculosis and viral infections (3).

Clinically, EN presents with bilateral painful nodules measuring 1–5 cm, often accompanied by systemic features such as fever, malaise, and lymphadenopathy (1,3). Histopathologically, it is characterized by septal panniculitis without primary vasculitis, distinguishing it from other forms of inflammatory panniculitis (4). Although the condition is usually self-limiting within 3–6 weeks, persistent or recurrent cases necessitate careful etiological evaluation and appropriate therapeutic intervention (2,5).

From the Siddha medical perspective, inflammatory dermatoses presenting with erythema (சிவத்தல்), burning sensation (எரிச்சல்), pain (வலி), swelling (வீக்கம்), and fever (சுரம்) are described under Karappan disorders, particularly Pitha Karappan **(**பித்த கரப்பான்**)** (6). Classical Siddha texts attribute Pitha Karappan to the vitiation of Azhal **(**Pitha**)**, which affects Saaram and Senneer, leading to inflammatory nodular eruptions with associated systemic heat features. These manifestations closely parallel the clinical features of erythema nodosum. In Siddha literature the inflammatory lymphadenitis are resulting from combined Azhal–Iyyam derangement.

Thus, EN with cervical lymphadenitis may be interpreted in Siddha nosology as Pitha Karappan**,** where predominance of Azhal leads to inflammatory nodular lesions and systemic febrile manifestations. The Siddha therapeutic approach in such conditions focuses on Azhal neekki (pacification of Pitha), Rakta suddhi (blood purification), veekam neekki (resolution of inflammatory swelling), and restoration of Uyir Thathukkal balance, thereby addressing both local and systemic inflammatory pathology.

Case Presentation

Patient Information

A 12-year-old male child presented to the Department of Kuzhanthai Maruthuvam, National Institute of Siddha, in July 2024 with complaints of painful reddish swellings over both legs for 15 days, difficulty in walking for 10 days, and a painful swelling over the left side of the neck for one month. The neck swelling was associated with intermittent moderate-grade fever since its onset. The fever was relieved temporarily with antipyretics and was not associated with chills, rigors, night sweats, weight loss, cough, or other systemic symptoms.

The child was born at full term through normal vaginal delivery with a birth weight of 3.2 kg. There was no history of perinatal complications or neonatal intensive care unit admission. His developmental milestones were attained appropriately for age, and his immunization status was up to date as per the national schedule. There was no significant past medical history of chronic illness, tuberculosis exposure, autoimmune disorders, or recurrent infections. Family history was non-contributory.

History of Present Illness

The swelling in the neck began as a small, painful, slow-growing lump that gradually increased to approximately 8 × 6.5 cm. Fever was moderate, with daily spikes relieved by medication, not associated with chills or rigors. The child also noted reddish nodules over the legs two weeks later, which were painful and tender, causing difficulty in walking.Two months prior, he had a similar episode with nodules that ruptured after using an ointment prescribed by a pediatrician. He was treated at a private hospital (May 2024) with cephalexin (500 mg for 5 days) and amoxicillin-clavulanate (for 4 days) and was diagnosed with *erythema nodosum with vasculitis*. The symptoms recurred despite antibiotic therapy.

Family history:

Elder sister (14 years) healthy; no family history of tuberculosis or autoimmune diseases

Clinical Examination

On general examination, the child was conscious, oriented, and afebrile at the time of assessment. There was no pallor, icterus, cyanosis, clubbing, or generalized lymphadenopathy. Local examination of the neck revealed a diffuse, tender swelling measuring approximately 8 × 6.5 cm in the left cervical region. The swelling was warm to touch and mobile, without evidence of sinus formation or discharge. Dermatological examination showed multiple erythematous, tender nodules over the bilateral anterior tibial regions with surrounding peripheral hyperpigmentation. In addition, a hypopigmented patch was observed over the dorsum of the left hand. No ulceration or discharge was noted from the lesions. Other systemic examination findings were within normal limits. There was no joint swelling, deformity, or restriction of movement.

Investigations

Parameter	Result
Hb	13.8 g/dL
TC	9940 /cmm
Platelets	4.12 lakh /cmm
ESR	52 mm/hr
CRP	56 mg/dL
ASO titre	58 IU/mL
RA factor	Normal
Mantoux	Negative
CB-NAAT	Negative
AEC, ANC	Normal
Tissue C/S	No pathogen isolated
Biopsy (HPE)	Septal and mild lobular panniculitis – erythema nodosum
Chest X-ray	Normal
Neck Ultrasound	Hypoechoic collection 4.8 × 2.5 cm deep to left SCM → cervical nodal abscess

Diagnostic assessment

Based on the presence of bilateral tender erythematous nodules over the anterior tibial region associated with fever and cervical swelling, erythema nodosum with cervical lymphadenitis was suspected. Laboratory investigations showed elevated inflammatory markers (ESR 52 mm/hr, CRP 56 mg/dL), while hemoglobin, total leukocyte count, and platelet count were within normal limits. ASO titre was mildly elevated. Mantoux test and CB-NAAT were negative.

Ultrasonography of the neck revealed a hypoechoic collection (4.8 × 2.5 cm) suggestive of cervical nodal abscess. Skin biopsy demonstrated septal panniculitis without vasculitis, confirming erythema nodosum.

Differential diagnoses such as cellulitis, vasculitis, and tuberculous lymphadenitis were ruled out clinically and through investigations. From the Siddha perspective, the features of erythema, burning sensation, pain, swelling, and fever were consistent with Pitha Karappan.

The final diagnosis was streptococcal infection–induced erythema nodosum with cervical lymphadenitis.

Therapeutic Intervention

Siddha Regimen

Medicine	Dose & Adjuvant	Duration	Therapeutic Role
Bramanatha Bairavam	2 tablets BD with honey	3 weeks	*Azhal neekki, Vedhana nivarthi* — anti-inflammatory and pain-relieving
Amukkara Chooranam	2 tablets BD with milk	3 weeks	enhances strength and immunity
Silasathu Parpam	2 tablets BD with milk	3 weeks	*Rakta suddhi, veekam neekki* — blood purifier and anti-inflammatory
Vellarugu Chooranam	2 g BD with hot water	3 weeks	*Azhal neekki, veekam neekki* — reduces inflammation and detoxifies

Dietary Advice: Pathiyam – soft rice gruel (*kanji*), green leafy vegetables, avoidance of spicy, oily, sour, and meat-rich foods.

Supportive Care: Adequate rest, warm compress over neck swelling, and hydration.

Follow-Up and Outcome

Timeline	Observation
1 week	Child walked without support; tenderness reduced; fever subsided
2 weeks	Regression of shin nodules and neck swelling; no new lesions
3 weeks	Complete resolution of nodules and neck abscess without drainage; ESR normalized (18 mm/hr); CRP decreased to 10 mg/dL
1-month follow-up	No recurrence, good general health, resumed school

Discussion

Erythema nodosum (EN) is the most common form of septal panniculitis and is considered a delayed hypersensitivity reaction triggered by infections, drugs, autoimmune conditions, or idiopathic factors. The inflammatory process primarily involves immune complex deposition and cytokine-mediated septal inflammation without vasculitis [7]. Elevated levels of pro-inflammatory cytokines such as TNF-α, IL-6 and IL-8 are implicated in the pathogenesis of EN,

contributing to painful nodular lesions over the extensor surfaces of the lower limbs [7,8].

In this case, the Siddha formulation included Amukkara Chooranam (*Withania somnifera*), Silasathu Parpam (Shilajit), Vellarugu Chooranam (*Enicostemma littorale*), and Bramanatha Bairavam. The pharmacological actions of these components may support their role in inflammatory dermatoses.

Withania somnifera has demonstrated significant anti-inflammatory and immunomodulatory effects through inhibition of NF-κB signaling and downregulation of pro-inflammatory cytokines including TNF-α and IL-1β [9]. Experimental and clinical studies suggest that its bioactive withanolides contribute to suppression of systemic inflammatory responses, which may be relevant in cytokine-mediated conditions like EN [9,10].

Shilajit contains fulvic acid and other bioactive compounds known for antioxidant and anti-inflammatory properties. It has been shown to reduce oxidative stress and modulate inflammatory mediators, thereby supporting tissue repair and immune regulation [11]. Since oxidative stress plays a contributory role in inflammatory skin disorders, this mechanism may aid in symptomatic improvement.

Enicostemma littorale possesses documented anti-inflammatory and antioxidant activities. Experimental studies have demonstrated reduction in edema and inhibition of inflammatory mediators in animal models [12]. These pharmacological properties may complement the overall anti-inflammatory effect of the regimen.

Although erythema nodosum is often self-limiting, the observed reduction in pain, tenderness, and inflammatory markers following Siddha intervention suggests a potential immunomodulatory and anti-inflammatory contribution of the prescribed medicines. However, as this is a single case observation, definitive causal inference cannot be established. Larger controlled studies are required to validate the safety and therapeutic efficacy of these Siddha formulations in pediatric inflammatory dermatoses.

Patient Perspective

The patient's parents expressed relief and satisfaction. They observed rapid improvement within a week and appreciated that the swelling subsided without surgical intervention or adverse effects.

Conclusion

Siddha therapy demonstrated effective resolution of erythema nodosum with cervical lymphadenitis secondary to streptococcal infection. The outcome supports the potential of Siddha formulations as safe, immune-modulating alternatives in pediatric inflammatory dermatoses. Further studies with larger cohorts and controlled designs are warranted to validate these findings.

References

1. Pérez-Garza DM, Chavez-Álvarez S, Ocampo-Candiani J, Gomez-Flores M. Erythema nodosum: A practical approach and diagnostic algorithm. *Am J Clin Dermatol*. 2021;22(3):367-378. https://doi.org/10.1007/s40257-021-00592-w
2. Blake T, Manahan M, Rodins K. Erythema nodosum – a review of an uncommon panniculitis. *Dermatol Online J*. 2020;26(5):13030.
3. Torrelo A, et al. Erythema nodosum in children: A narrative review and practical approach. *Children (Basel)*. 2022;9(4):511. https://doi.org/10.3390/children9040511
4. Kempf W, et al. Update on panniculitis: clinicopathological features and diagnostic approach. *Dermatopathology*. 2021;8(2):123-134. https://doi.org/10.3390/dermatopathology8020015
5. Schwartz RA. Erythema nodosum: advances in etiopathogenesis and management. *J Am Acad Dermatol*. 2023;89(2):e35-e44.
6. Murugesha Muthaliar K, Ponkusironmani S, Paathipaasiriyargal. Kuzhanthai maruthuvam (Balavagatam). 4th ed. Chennai: Directorate of Indian Medicine & Homeopathy, Tamil Nadu Government; 2007.
7. Schwartz RA, Nervi SJ. Erythema nodosum: a sign of systemic disease. *Am Fam Physician*. 2007;75(5):695-700.
8. Gilchrist H, Patterson JW. Erythema nodosum and panniculitis. *Dermatol Ther*. 2010;23(4):320-327. https://doi.org/10.1111/j.1529-8019.2010.01333.x
9. Mirjalili MH, Moyano E, Bonfill M, Cusido RM, Palazón J. Steroidal lactones from Withania somnifera, an ancient plant for novel medicine. *Molecules*. 2009;14(7):2373-2393. https://doi.org/10.3390/molecules14072373
10. Dar PA, Mir SA, Bhat JA, et al. Withania somnifera and its immunomodulatory effects: a review. *J Ethnopharmacol*. 2015;164:234-245. https://doi.org/10.1016/j.jep.2015.01.033
11. Carrasco-Gallardo C, Guzmán L, Maccioni RB. Shilajit: a natural phytocomplex with potential therapeutic properties. *Int J Alzheimers Dis*.

2012;2012:674142. https://doi.org/10.1155/2012/674142

12. Kamble SM, et al. Anti-inflammatory activity of Enicostemma littorale in experimental models. *J Ethnopharmacol*. 2008;115(3):424-429. https://doi.org/10.1016/j.jep.2007.10.019