

Efficacy of Shatavari Granules in the management of Henoch–Schönlein Purpura (HSP): A single case study

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Abstract

Henoch-Schönlein purpura (HSP), the prevailing vasculitis in childhood, manifests through leukocytoclastic vasculitis, predominantly affecting small vessels in the skin, joints, gastrointestinal tract, and kidneys. Its incidence stands at approximately 14-20 cases per 100,000 children annually, exhibiting a higher predilection towards males with a ratio of 1.2-1.8:1 compared to females. Contrarily, HSP manifests less frequently in adults but often accompanies severe and protracted complications. The condition tends to occur more frequently during the winter and spring seasons, while occurrences during summer are uncommon. Clinical manifestations of HSP bear resemblance to Ayurvedic Rakta Pradoshaja Vyadhis, with patients typically presenting symptoms such as vyanga (pigmentation), daha (burning sensation), kandu (itching), rukshata (dryness), raga (redness) over the skin, udarashoola (colicky pain), and sandhi vedana (joint pain).

Aim: The aim of this study is to assess the efficacy of Ayurveda management in treating HSP, known as Raktapradoshajavyadhi, and to elucidate the potential of Ayurveda treatments in addressing autoimmune disorders like HSP.

Objectives: This study aims to document the clinical outcomes of Ayurvedic medicine in the management of Henoch-Schönlein purpura (HSP).

Methods: In this single case study, a 14-year-old female diagnosed with HSP presented with reddish and blackish skin lesions on her upper and lower limbs persisting for four months, accompanied by itching, burning sensation, arthritis, and stomach ache. The patient received Ayurvedic treatment for one month, and observations were made regarding the outcomes.

Results: The patient showed improvement solely with herbal medication. Skin purpura on the lower limbs and abdominal pain, which had not responded to corticosteroid treatment, disappeared and did not recur following Ayurvedic intervention.

Conclusion: This case suggests the potential effectiveness of Shatavari Granules in managing HSP in patients.

Keywords: Vasculitis, Henoch-Schönlein purpura, Ayurveda, Shatavari Granules, Rakta Pradoshaja Vyadhi

INTRODUCTION

Henoch-Schönlein purpura involves an immune complex-mediated hypersensitivity reaction causing systemic vasculitis with IgA deposition. Its aetiology remains unknown, but it frequently occurs after an upper respiratory infection.¹

The defining characteristic of HSP manifests as a rash of palpable purpura, initially appearing as pink macules or wheals, which progress into petechiae, raised purpura, or larger ecchymosis. On occasion, bullae and ulcerations may develop. Typically, the skin lesions are symmetrical and manifest in gravity-dependent regions such as the lower extremities, the extensor aspect of the upper extremities, or pressure points. These skin lesions often emerge in clusters, typically persisting for 3-10 days and occasionally recurring up to 4 months after the initial onset. Subcutaneous oedema is frequently localized to the dorsum of the hands and feet, the periorbital area, lips, scrotum, or scalp.

Musculoskeletal involvement, including arthritis and arthralgia's, is common, occurring in up to 75% of children with HSP. Arthritis in HSP usually resolves spontaneously and frequently involves large joints such as the knees and ankles, without resulting in deformities. Periarticular swelling and tenderness are common, typically without visible redness or fluid accumulation. The arthritis typically resolves within two weeks but may recur. Gastrointestinal symptoms, which affect up to 80% of children with HSP, include abdominal pain, vomiting, and bloody diarrhoea. Renal involvement affects up to 30% of children with HSP, characterized by microscopic hematuria, proteinuria, hypertension, nephrotic syndrome, and acute or chronic renal failure. However, progression to end-stage renal disease (ESRD) in children is rare. Renal symptoms may appear several months after the initial illness. Additionally, HSP can lead to glomerulonephritis and central nervous system (CNS) vasculitis, which may manifest as intracerebral haemorrhage, seizures, headaches, altered consciousness, cranial or peripheral neuropathies, and behavioural changes. Less common manifestations of HSP include inflammatory eye disease, carditis, pulmonary haemorrhage, orchitis, and testicular torsion.

Diagnosis: Skin biopsy typically reveals leukocytoclastic vasculitis with IgA deposition in blood vessels or at the dermo-epidermal junction. Renal histology may range from mild mesangial proliferation to focal segmental necrotizing glomerulonephritis (GN), with consistent IgA deposition in the mesangium.

Management includes symptomatic treatment and immunosuppressant in cases of renal involvement, particularly in severe disease.

Diseases resulting from vitiation of blood are collectively referred to as "Raktapradoshaja vyadhi" in Ayurveda. When the doshas (in this condition predominantly pitta, among three fundamental substances in the body vata, pitta and kapha) vitiate the blood and circulate to various sites in the body, they cause a variety of symptoms. Skin manifestations include pigmentation (vyanga), burning sensation (daha), itching (kandu), dryness (rukshata), and redness (raga). Additionally, symptoms may include colicky pain (udarashoola) and joint pain (sandhi vedana). Management plans consider factors such as the intensity of dosha vitiation and the body's reaction to it. Management typically involves RaktaPittahara Kriya (subsiding and normalizing vitiated pitta and inturn rakta), as mentioned by Acharya Charaka for all Raktapradoshaja vikaras.²

Patient information

A 14-year-old female patient presented with a complaint of reddish and purplish skin lesions covering both upper and lower limbs persisting for the past four months. She also reported experiencing itching and burning sensations, along with abdominal pain and diarrhoea occurring 15 days ago. There is no

history of fever or joint involvement. The patient sought consultation at the outpatient department of KLE Shri BMK Ayurveda Hospital in Belagavi.

Clinical findings & diagnostic assessments

Clinical findings at KLE Ayurveda Hospital in Belagavi revealed sensory deficits such as itching and pricking sensations throughout the body, along with a burning sensation on the palms and soles of all extremities. Further examination indicated intact motor functions. The patient met the diagnostic criteria for Henoch-Schönlein purpura (HSP). During local examination, maculopapular, reddish, and purple patches were observed extensively on both lower and upper limbs, with a greater prevalence in the lower limbs. These patches were non-blanching. Additionally, there was palpable swelling and non-pitting edema around the ankle joint, accompanied by tenderness.

INVESTIGATIONS

White Blood Cells (WBC): 8800 cells/mm³

Neutrophils (N): 64%

Lymphocytes (L): 32%

Eosinophils (E): 3%

Monocytes (M): 1%

Erythrocyte Sedimentation Rate (ESR): 29 mm/hr

Serum Creatinine: 0.97 mg/dL

Serum Bilirubin:

Total: 1.04 mg/dL

Direct: 0.17 mg/dL

Bleeding Time (BT): 2 minutes 25 seconds

Clotting Time (CT): 4 minutes 30 seconds

Platelets: 3.08 lakh/mm³

Urine Routine: Normal

C-Reactive Protein (CRP): 40 mg/L

TIME LINE

- Four months ago: Onset of reddish and purplish coloured skin lesions covering upper and lower limbs, accompanied by itching and burning sensations.
- 15 days ago: Onset of abdominal pain.
- No history of fever.
- No renal function involvement reported.

History of Present Illness (HOPI):

Four months ago: Patient experienced sudden onset of generalized weakness and observed red-coloured spots on both the feet, which progressively extended to the entire lower limb within one week, accompanied by swelling of the right ankle joint. In another 15 days, rash extended and manifested in the upper limb. The patient sought medical attention and consulted a physician who prescribed a single course of antibiotics and antihistamines. Subsequently, the patient developed swelling in the lower limb. Following this, the patient consulted a dermatologist who recommended various ointments and steroids, which the patient is currently using. There is no reported history of hypersensitivity.

Treatment history:

<ul style="list-style-type: none"> • Tab -Avil 25mg TID • Tab-Neproxen 250mg ½-0-1/2 • Tab-Zipant 40 1-0-0 • Tab-Hifen-200mg 1BD 	<ul style="list-style-type: none"> • Oint- Aquaoat-LA BD • Oint- Maxrich-LA BD • Oint- Ericlean LA BD • Oint- Venusla for swelling • Oint- Clobodil LA BD
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Before and After Therapeutic intervention:

BEFORE TREATMENT	AFTERTREATMENT
Reddish and purplish colored skin lesions all over upper limbs	Reduced
Reddish and Purplish colored skin lesions all over lower limbs	Reduced
Swelling – non pitting edema over ankle joint with tenderness	Reduced
Itching	Absent
Burning sensation	Absent
Abdominal pain,	Absent

Before treatment	After Treatment
	
	

Table 1: Timeline and Ayurvedic Intervention.

Date	Event	Intervention
10/02/2021	The patient had reddish and purplish color skin lesions all over upper and lower limbs since four months. Swelling – non pitting edema over ankle joint with tenderness Associated with itching and burning sensation, abdominal pain	<ul style="list-style-type: none"> • Laghu Sutashekara vati 1 BD – • Vidangarishta • Ksheerabala taila for application
22/02/2021 10.00 am	The patient came to hospital with the same above complaints. Itching and Abdominal pain got reduced.	<ul style="list-style-type: none"> • Shatavari granules 1tsf in 50ml water along with honey 1tsf twice in a day empty stomach
01/03/2021 10.00 am	The child came for follow up. Reassessment was done. there was complete reduction in rashes over extremities. Itching and burning sensation was resolved. Swelling of ankle joint was reduced,	<ul style="list-style-type: none"> • Shatavari granules 1tsf in 50ml water along with honey 1tsf twice in a day empty stomach <p>Continued for another two months</p>

DISCUSSION:

Henoch-Schönlein purpura (HSP) bears a striking resemblance to Raktapradoshaja vyadhi, as described in the Vyadhisammudesiya Adhyaya of Sushruta samhita. While Vagbhata does not delineate dhatupradoshaja vikaras separately, the diseases elucidated in the Siravyadhavidhi Adhyaya closely resemble the Raktapradoshaja vikaras outlined by Charaka and Susruta. According to Ayurveda, HSP arises from faulty lifestyle and dietary habits, which lead to an imbalance in Agni (bio-fire) and subsequently result in sluggish Agni functioning (Mandagni). This process subsequently leads to the impairment of kaphadosha, resulting in the production of Ama (unmetabolized toxin)³. This malarupi kapha (ama) aggravates the Rakta, becoming vitiated and circulating throughout the body. Wherever it accumulates, it triggers various manifestations. Although Vata, Pitta, and Kapha have the potential to vitiate Raktadosha, Pitta exhibits a greater affinity towards Rakta due to the Ashrayashrayee bhava (interrelated effect) with Pitta dosha⁴ and Rakta Dhatu (blood). The Raktadhatu, shares properties similar to Pitta Dosha⁵. These properties include sneha (unctuousness), ushna (heat), tikshna (sharpness), drava (liquidity), sara⁶ (mobility), etc., and are predominantly composed of Agni (heat)⁷ and Jala mahabhuta (liquid factors). Raktadhatu closely resembles blood in all aspects, as it circulates throughout the body via the heart and vessels, nourishing every cell, tissue, and organ. Recognizing its vital role and physiological significance, Rakta has been designated as the Fourth Dosha by Acharya Susruta. Therefore, in cases of Raktapradoshaja vikaras, Pitta plays a definitive role in the vitiation of Raktadhatu.

Shatavari is a well-established herb in Ayurveda renowned for its efficacy in treating rakta and Pittaja vikaras due to its sweet bitter taste and cold potency. This herb is widely recognized as an Ayurvedic rasayana, known for its anti-aging properties, ability to enhance longevity, boost immunity, improve mental function, enhance vigour, and promote vitality. Additionally, it is utilized in the management of nervous disorders, dyspepsia and inflammation.

Pharmacological studies have highlighted various beneficial activities of Asparagus racemosus root extract, including antiulcer⁹, antioxidant, antidiarrheal, antidiabetic, and immunomodulatory properties. The key active constituents of A. racemosus are steroidal saponins, particularly Shatavarins I-IV, predominantly found in the roots. Shatavarin IV has demonstrated notable inhibitory effects on

core Golgi enzymes transferase and has shown immunomodulatory activity against specific T-dependent antigens in immunocompromised animals.

The ulcer-healing effects of Shatavari are attributed to its ability to strengthen mucosal resistance, prolong the lifespan of mucosal cells, increase mucous secretion and viscosity, and reduce H⁺ ion back diffusion. It has been observed to maintain the continuity and thickness of aspirin-treated gastric mucosa while exhibiting significant antitussive activity. Moreover, the powdered root of *A. racemosus* has been reported to induce leucocytosis and predominant neutrophilia, along with enhancing the phagocytic activity of macrophages and polymorphs. Furthermore, oral administration of *A. racemosus* root extract has shown immunostimulatory effects, leading to a significant increase in antibody production

Deterioration of symptoms with disappearance of purpuric rash were noted in this case after administration of Shatavari granules within a week and during a follow-up period of more than eight months. Complete recovery was noted in 2 months. Due to Covid pandemic and lack of transportation, the patient could not visit the hospital for next two months but continued the treatment and follow up was done on phone conversation. These results were comparable to those observed with allopathic medications previously administered to the patient. Moreover, there were no observed adverse effects during the treatment regimen, unlike the potential side effects associated with immunosuppressive medications such as NSAIDs, antihistamines, antibiotics, and steroids. This case study underscores the favorable efficacy and safety profile of Shatavari granules. Consequently, it is inferred that Shatavari granules may offer benefits in the management of HSP. Additionally, this case study sheds light on the potential alternative approach to managing HSP through the modulation of Raktapradoshaja vyadhis.

Financial support and sponsorship: Nil.

Conflicts of interest: There are no conflicts of interest.

CONCLUSION

In conclusion, this case study demonstrates favorable outcomes following treatment with Shatavari granules. However, further investigation through large-scale studies is necessary to validate these results and determine the role of Ayurvedic treatment modalities in the management of HSP.

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