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Case Report

Sweet syndrome unresponsive to corticosteroid therapy managed with ayurveda medication: A case report

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ABSTRACT

Background: Sweet syndrome (SS) is characterized by sudden appearance of multiple, painful erythematous, papular-nodular skin lesions accompanied by a fever and myalgia. SS resembles *Visphota* (Bullous eruption disorders) in Ayurveda. SS is a scarcerare skin condition, and Ayurvedic management of this condition is not reported. Therefore, this case report is prepared after taking informed consent from the patient.

Case presentation: A 34-year-old male patient presented with a complaint of the appearance of multiple blisters over the upper and lower extremities, forehead, and chest with mild fever, congestion of the eye, joint pain, and muscular stiffness for the last two weeks. He has been on oral prednisolone for ten weeks by a dermatologist. The patient has no history of taking drugs in the previous four months before the onset of the skin lesions. The patient was prescribed Nagaradi Kasya (Amrttam Kasaya), Siddha Makardwaja (Plain), Kaisara Guggulu (KG), Ashwagandha ghana vati, and Avipatkar Churna in recommended dose for two weeks. Fifty percentage lesions disappear along systemic symptoms within seven days and complete remission of lesions in fifteen days. The medication was stopped after fifteen days and observed for one year. There is a significant reduction of inflammatory markers like-erythrocyte sedimentation rate (ESR), Total Leucocyte Count (TLC), and C Reactive protein (CRP) after the treatment compared to the baseline also.

Conclusion: Ayurvedic modalities may be a better treatment option in rare skin conditions like sweet syndrome, where corticosteroid usage failed to improve. More evidence of the usefulness of the Ayurvedic therapeutic approach must be gathered.

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1. Introduction

Sweet syndrome (SS) is characterized by a sudden appearance of multiple, painful erythematous, papular-nodular skin lesions accompanied by a fever and myalgia. Acute febrile neutrophilic dermatosis is a synonym [1]. Inflammatory markers are elevated [2]. There are also reports of occurrences of corticosteroid resistance sweet syndrome [3,4]. An integrative approach to skin care is increasingly necessary because the cost of modern medication

medications and diagnostic tests, and side effects, are not always acceptable to all [5–8] (see Figs. 1 and 2).

Emergency skin conditions and autoimmune skin diseases are managed by Ayurveda [9,10]. Cutaneous lesions, fever, headache, and malaise are the clinical features of Indian patients with sweet syndrome [11], which resembles *Visphota* (Bullous eruption disorders) described in classical Ayurveda texts. As per Charaka Samhita, the explosions look like fluid-filled blisters in burns associated with fever in *Visphota* [12]. Ayurveda treatment showed rapid regression of autoimmune blister formation (*Pittakaphaja Visphota*), allowing complete stoppage of corticosteroid use in one case report [13]. Evidence-based Integrative care is needed to provide low-cost, safe, and effective treatment in our country [14]. SS is a scarcerare skin condition, and Ayurvedic management of this condition is not reported. Therefore, this case report is prepared after taking informed consent from the patient.

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Fig. 1. Before and after Ayurveda treatment of the Visphota in the Leg.

2. Case history

2.1. Patient information

A 34-year-old male patient, a medical assistant in a private medical college by profession, is well-built.

2.2. Present medical history

He presented with a complaint of the appearance of recurrent episodes of blisters over extremities, forehead, and chest with mild fever, congestion of the eye, joint pain, and muscular stiffness despite the use of a recommended dose of Prednisolone (30 mg once daily after breakfast) since more than three months. The patient has no history of taking any drugs in the past month before the onset of skin lesions. The patient has not given a significant history of *virudhha ahara* (incompatible food) intake except for a sudden change in environmental temperature.

The lesions started with fever, myalgia, sore throat, and redness of eyes eight days back in the current episode. The lesions evolved to form bullae in 3–4 days. The patient approached the Skin and VD department of a Medical College. The disease was diagnosed as Sweet syndrome clinically, and a skin biopsy was done to confirm. After thorough scrutiny, no underlying cause could be established as the etiology. Initially, treatment was started with 40 mg of Prednisolone once daily for one month; then, the symptoms subsided with no appearance of a new lesion. Then the Prednisolone dose was tapered to 30 mg, but the symptoms reappeared after twenty days of taking 30 mg of Prednisolone daily. The patient attended the Ayurvedic Hospital as he could not get relief from the systemic medications.

On examination, the patient was febrile, with lesions that looked like fluid-filled blisters with a typical pseudo-vesicular appearance. The erythrocyte sedimentation rate (ESR) was 120 mm at 1st hour, TLC-12200, C Reactive protein 40 mg/L. The patient was *Pitta vata Prakriti*.

2.3. Timeline

The chronological summary of the history of skin eruption, follow-up visits, and allopathic and Ayurvedic care with relevant dates is narrated in Table 1.

3. Diagnostic assessment

The diagnosis of Sweet syndrome in this case was clinically done by fever, respiratory discomfort, joint pains, and muscle stiffness aided by skin biopsy of elevated white cell count with neutrophil predominance and elevated inflammatory markers like CRP and ESR. The *prakriti* of the patient was assessed by CCRAS standard scale. The differential diagnosis from *Udumbara Kustha* and *Agni Visarpa* was done. The patient having fever so *udumbara kusta* can be excluded. The patient has no vomiting or fainting so *Agni visarpa* can be excluded. The patient is *pitta prakriti* and the blister looked like fluid-filled blisters in the burn (*daha*), fever (*Jvara*), body ache (*ruja*), *Paka* (suppuration), *sraba* (discharge), muscle stiffness and pain in small joints (*Parvabheda*) which is *pitta vata* predominant. So the case is diagnosed as *Pitta Vataja Vispotota* as per Madhav Nidan.

4. Therapeutic intervention

The line of treatment is *Vyadhi pratanika chikitsa* (symptomatic relief) as well as *Dosa pratanika Chikita* and *Rasayana*. The therapeutic interventions were *jvara-hara* (Anti-pyretic), *bedana-nasaka* (Analgesic) *anulomaka* (Laxative), *pitta vata nasaka*, and *Rasayan* (immunomodulation) at a low-cost mode. The patient was advised to easily digestible diet. Therefore, the following medicines were prescribed for fifteen days and observed for one year.

- i) Nagaradi Kasya (Amrttam Kasaya) – 30 ml twice daily before food with lukewarm water-procured from Nagarjuna Ayurveda Pharmacy, Kerala
- ii) Siddha Makardwaja (Plain)-125mg with honey twice before food - procured from Dabur India Limited
- iii) Aswagandha ghana Vati-500 mg twice daily after food - procured from Hospital Pharmacy that prepared by IMPCL, Uttarakhanda
- iv) Kaisara Gugulu-500mg each – 2000 mg (Two tablets) twice daily after food-procured from Hospital Pharmacy that prepared by IMPCL, Uttarakhanda
- v) Avipitaikar Churna – 10 gm at night - procured from Hospital Pharmacy that prepared by IMPCL, Uttarakhanda



Fig. 2. Complete remission of the lesion after 15 days of therapy.

5. Follow-up and observation

The patient was advised to visit every seven days till the recovery of symptoms. monthly once for follow-up for one year. The patient's fever and muscle stiffness subsided after three days of treatment. 50% of lesions disappeared in 1st week of treatment, and the complete disappearance of lesions was noted in fifteen days, and no new lesions appeared within fifteen days (Figs. 1 and 2). The lesion completely disappeared in one month of observation. The erythrocyte sedimentation rate (ESR) was 30/1st hour, TLC-9200, and C Reactive protein 6 mg/L after fifteen days of treatment. The erythrocyte sedimentation rate (ESR) was 18/1st hour, TLC-7000, C Reactive protein 4 mg/L after one year. There was a significant change in the values of the inflammatory markers as compared to baseline, after treatment, and after one year (Table 2).

6. Discussion

Ayurveda has well-defined literature on disease, i.e. *Visphota* (Bullous lesion disorders) described in Charak Samhita [12], which was very first described in 1964 by Robert Douglas Sweet [15]. Ayurveda medication is personalized and depends on the body's constitution and disease conditions. In this case, therapeutic interventions were *pitta vata nasaka*, *jvara hara* (Anti pyretic), *bedana nasaka* (Analgesic) *anulomaka* (Laxative), and *Rasayan* (immunomodulation) at a low-cost mode. *Nagaradi Kasaya* is prescribed as it contains two parts of Ginger (*Zingiber officinalis*), four parts of *Terminalia chebula* and six parts of *Tinospora cordifolia*, which is indicated in *Jvara* and skin disorders. Siddha makardvaja Rasa is good immune boosting drug used in RA [15] *Aswagandha* (*Withenia somnifera*) is a good *Rasayana* and showed promising antibacterial, anti-tumoral, immune-modulating, and anti-inflammatory

Table 1
Timelines of Allopathic and Ayurvedic care.

Date	Clinical presentations	Intervention
20/6/2021	Sore throat, small tender nodules over limbs and trunk	No Medication taken
27/6/2021	The previous symptom resolved	No medication
30/6/2021	Bullous lesions over upper and lower extremities, forehead, and chest, mild fever, congestion of the eye, joint pain, and muscular stiffness	Came for Allopathic consultation Send skin sample for biopsy Sweet syndrome Provisional diagnosis
7/7/2021	Continue, More stiffness	40 mg Prednisolone once daily for one month after biopsy confirmation and ruling out other systemic underlying conditions
7-8-2021	Skin manifestation reduced	40 mg Prednisolone once daily for another 10 days
17-8-2021	Responded well, No new Lesions	30 mg Prednisolone once daily for another 10 days
17-9-2021	The reappearance of Lesion and Muscle stiffness	The patient was advised for 40 mg of Prednisolone once daily for another 30 days
20-9-2021	More pain and lesion appeared more ESR, CRP ↑↑	The patient came for Ayurveda consultation Medication provide for 15 days
5-10-2021	No lesion, No Pain and stiffness, ESR, CRP ↓↓	Stop medication
5-10-2022	No complaints, no episodes of rash	No medication. Patient under observation and follow-up only

Table 2

Various inflammatory markers before and after Ayurveda intervention.

S.N	Inflammatory Markers	Baseline	After 15 days of treatment	After one year, follow up
1	ESR	120/1st hour	30/1st hour	18/1st hour
2.	TLC	12,200	9200	7000
3.	CRP	40 mg/dl	6 mg/dl	4 mg/dl
4	Skin lesions	+++	Nil	Nil

properties [16]. *Kaisara Guggulu* has a good outcome in *Vata ratka* (Arthropathy) [17] and *Avipatikar Churna* is a good laxative and cytoprotective [18,19]. So the administered regimen has *pitta-vata nasaka* (Anti pitta and vata), *jvara hara* (anti-pyretic), *bedana nasaka* (Analgesic), *anulomaka* (Laxative), and *Rasayana* (immunomodulation) properties. All the medication can reduce the *vata* and *pitta* and is sufficient for *samprapti vigha* (Breaking Pathogenesis). Theories regarding the pathogenesis of Sweet syndrome include hypersensitivity to eliciting bacterial, viral, or tumor antigen that may trigger neutrophil activation and infiltration leading to Sweet syndrome, another theory suggests the role of cytokines and chemokines such as G-CSF, GM-CSF, IL-1, and interferon-gamma with a higher level of these cytokines reported in patients with Sweet syndrome [20]. The Ayurveda medications perhaps reduced the neutrophil activation and release of cytokines and chemokines that could provide complete remission of signs and symptoms of Sweet syndrome in fifteen days without any harmful effects in this case. There is a significant reduction of inflammatory markers like-erythrocyte sedimentation rate (ESR), leucocyte count, and C Reactive protein before and after Ayurveda treatment. There was no relapse of diseases in the one year of the follow-up and observed period.

7. Conclusion

The Ayurvedic treatment modalities showed complete recovery from Sweet Syndrome within fifteen days in this corticosteroid refractoriness case.

Patient perspective

The patient attended the Ayurvedic Hospital as he could not get the desired relief with the systemic medications of modern medicine. The patient was extremely grateful to Ayurveda for relief within fifteen days without any side effects.

Informed consent

Written consent from the patient was taken to publish the report.

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Contributor's role taxonomy

Dr Panda: Conceptualization, data curation, formal analysis, writing of original draft; Dr K Rao: Review & Editing and management; BRK: Supervision, visualization, and editing of the manuscript; SK: Resource management, Review & editing.

Declaration of competing interest

None.

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