

Ayurvedic management of acute necrotizing fasciitis: A case study

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Abstract

Procedures to handle the wound in any condition and treat the wound according to the particular conditions. Sushruta is the prime surgeon of ancient times. He has mentioned the wide description of wound management in Sushruta Samhita. The allergic wound with unknown aetiology is a challenge for surgeons. In the present case study, a wound with necrotizing fasciitis develops after application to some herbal paste by a traditional healer of Meghalaya. In Ayurvedic literature, such types of wounds are known as Dusta Vrana. The wound was treated with Ayurvedic management along with initial antibiotic therapy for three days. The healing achieved with Wound management is the core of the surgical practice, Sushruta has mentioned a wide range of restoration of the skin within three weeks. Management included some oral Ayurvedic medication as well as local application of medicated ghruta. The patient was followed till date and no recurrence has been noticed.

Keywords: Ayurveda; Wound; Necrotizing fasciitis; Dusta Vrana

1. Introduction

Ayurveda is the most ancient system of medicine that includes the management of both medical as well as surgical conditions. Astanga Ayurveda¹ has eight branches, and Shalya Tantra is one of them. Shalya Tantra is the branch of Ayurveda that deals mainly with surgical conditions. Shalya Tantra is equivalent to Surgery in modern medical science. Sushruta Samhita is a classical textbook of Shalya Tantra. In Sushruta Samhita, there is a wide description of different types of Vrana (wounds), different pathological wounds with the involvement of different dosha². The wound with the voids of dosha is called shraddha Vrana and the wounds having healthy granulation tissue are called Ruhyaman Vrana or healing wounds and the wounds with the association of the different doshas and rakta can be classified as dustha vrana³ may be categorized as infected or pathological wounds or chronic non-healing wounds. Wound management is a very tedious job, especially if the wound appears due to any allergic or toxic condition. Eczema is a condition that develops after contact with any allergens, leading to erythema, itching and hyperpigmentation of the skin⁴. Later on, the skin becomes hard, and rough and discharges serous liquid from the lesions. In advance, condition ulcers may develop after itching. The ulcer may spread leading to the necrosis of the superficial tissue of the surrounding skin followed by secondary bacterial infection. Necrotizing fasciitis is the condition when a bacterial infection is spreading very rapidly in the subcutaneous tissue and underlines muscles, usually triggered by any toxic agents⁵. The main problem with this kind of lesion is that it spread very rapidly and if not controlled with effective management it spread to a very large area and may lead to septicemia. Another problem with these kinds of lesions is recurrence. In Sushruta Samhita there is a very detailed description of wound management has been given. The present case study is about the management of acute necrotizing fasciitis developed after the application of some herbal paste over a small eczematous lesion by some

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local traditional healer. The condition was successfully and effectively controlled and cured without any complications and recurrence with Ayurvedic oral and local medications.

Aim of study

The aim of study was to assess the effectiveness of Ayurvedic management in healing of allergic acute necrotizing fasciitis (*dusta vrana*).

2. Case report

A 40 years old gentleman visited a tertiary Ayurvedic hospital in Shillong, Meghalaya at Shalya Tantra OPD, with the complaint of the necrotizing, infected, painful wound with pus discharge, blisters, from elbow to hand on the right side in the last 3 days. The lesion was having a very foul smell. The patient has had a low-grade fever, malaise and anorexia for the last 3 days. According to the patient he was having a small eczematous lesion on the same elbow for a long time and recently he applied some herbal paste advised by some local traditional healers after that the affected lesion swells up and within three days all the symptoms appear. The patient was attended and a routine investigation was advised. For the treatment initially broad spectrum antibiotics Tablet Moxclave 625 1TDS with Zerodol-SP 1 BD started for 3 days because the patient had the sign of toxemia. The lesion was cleaned with betadine solution along with mechanical debridement of unhealthy tissue. In the investigation patient, TLC count was 7.84×10^3 , and Differential counts were as Neutrophils-70 per mm³, Lymphocytes-26 per mm³, Monocytes-2 per mm³, Basophils-0, Eosinophils-2 per mm³, Haemoglobin-14 g/dl, ESR-40, Blood Sugar random -235 mg/dl. But later Hb1Ac shows 5.1. The patient has no history of any systemic illness like Diabetes, Hypertension Tuberculosis etc. After 3 days complete Ayurvedic management has been started because now the patient has no sign of toxemia. The Ayurvedic management includes washing the wound with Triphala kwatha (decoction) twice daily and for oral Tab- Arogyawardhini Vati 1 twice daily, Tab- Gandhak Rasayana 1 twice daily, Mahamanjisthadi kwatha 10 ml twice daily and Panchatikta ghruta for local applications. These all are classical Ayurvedic preparation used in raktaj disorders i.e. the disorders which involve blood as the centre of the pathology. The patient was advised to strict diet and avoid using pitta prakopaka ahara and vihara.

As per the Ayurvedic perspective, the wound involved the tridosha and Rakta as the dominant dosha in the pathophysiology of the condition. All the infected wounds are categorized as *dusta vrana*. After 3 weeks the wound healed completely and the patient is followed up for 3 months for recurrence but no recurrence was observed. The pharmacological properties of the drugs with their main ingredients are given in the table below:-

Table 1 Details of the drugs with their pharmacological action

S.N.	Name of the drugs	Pharmacological action of the drugs used
1	Triphala kwatha ⁶	Antimicrobi-al Antioxidant, An immune modulator, Anti-inflammatory, Analgesic, antipyretic and ulcerogenic activities
2	Arogyawardhini vati ⁷	Improve liver function and detoxify the body, Raktsodhaka.
3	Gandhak Rasayana ⁸	Agnideepak, Kaphaghna, Kledaka, Krimighna, kusthaghna
4	Mahamanjisthadi kwatha ⁹	Vrana ropana (wound healing), Krimighana (antiseptic, antibacterial, antifungal), Kandughana (antiallergic-antihistaminic), Kusthaghana (skin protective), Varnaya (skin complexion enhancer), Vishagna (antioxidant), Sandhaniya (healing or binding), Sthambhan (astringent)
5	Panchatikta ghruta ¹⁰	Tridoshaghna (Pacification of alleviated Tridosha) and krimighna (wormicidal) property of ingredients in Panchatikta Ghruta demonstrates its antimicrobial property from Ayurvedic point of view.



Before Treatment



After 2 days



After 5 day



After treatment

Figure 1 Figures of study

3. Discussion

Initially, for three days the lesion was cleaned with betadine solution to control the sepsis and after that, the lesion was cleaned with Triphala kwatha twice daily. Triphala is the combination of the three herbal drugs Amalaki, Bibhitak and Harikati in equal quantity. We have made the Kwatha (decoction) by boiling the Triphala powder in water until remains half in quantity. As Triphala possess Antimicrobial Antioxidant, immune modulator, Anti-inflammatory, Analgesic, antipyretic and ulcer healing properties by the virtue of this the wound starts healing. Antimicrobial properties control sepsis and when washing the lesion with this kwatha reduces the load of pathogens from the lesion. The immune-modulator action of Triphala reduces the inflammation in the subcutaneous plane so the healing process starts. The oral preparation used in the study is Arogyavardhani vati possesses the raktasodhaka action which pacifies the rakta dosha as well as pitta dosha, because the wound has symptoms of pitta, rakta and Kapha aggravation. Arogyavardhani vati improves liver function which improves generalised symptoms like anorexia and malaise. Gandhaka Rasayana is a drug which contains sulphur which is very good and effective in skin disorders which control the itching and reduces the discharge of the wound due to its krimighna, kandughna and kapha kledaka action. Because kapha dosha is responsible for all these symptoms. The next drug used orally was mahamanjisthadi kwatha is a combination of the Manjistha, Triphala, Vacha, Neem, Tikta, Devadaru, Haridra and Guduchi. These are herbal drugs and jointly possess the Vrana ropana (wound healing), Krimighana (antiseptic, antibacterial, antifungal), Kandughana (antiallergic-antihistaminic), Kusthaghana (skin protective), Varnaya (skin complexion enhancer), Vishagna (antioxidant), Sandhaniya (healing or binding), Sthambhan (astringent) action, by this helps in pacifying the dosha and rakta followed by sadhana of wound and improve the ropana (Healing) of the lesion. The last drug we discuss here is the Panchtikta ghruta was used for local application after 5 days when the wound became clean because healing will not start until the wound becomes clean. It is the combination of the Nimba (Azadirachta indica), Guduchi (Tinospora cordifolia), Vasa (Adhatoda vasika), Patol (Trichosanthes dioica), Nidigdhka (Solanum xanthocarpum,) Ghrita Ghee and Guggul (Commiphora mukul). All these drugs have tikta in rasa which pacify the Pitta dosha which is responsible for the inflammation in the wound and also pacifies the kapha and rakta dosha which are responsible for the Ropana (healing)¹¹. The local application of the panchatikta ghruta enhances the granulation and epithelialization process by pacifying the visited doshas in the lesion. So all the drugs used orally as well as locally synergistically affects the lesion which finally results in the healing of the wound..

4. Conclusion

Based on the observation of this case we can conclude that the acute allergic skin lesion like necrotizing fasciitis can be correlated with the dusta vrana described in Ayurvedic classical textbooks Sushruta Samhita and these lesions can be successfully and effectively managed by the Ayurvedic drugs orally as well as locally in the support of the Antibiotic and anti-inflammatory drugs. We all know that Antibiotics and anti-inflammatory drugs can cause damage to the liver, kidney and other body organs potentially if used for longer periods. So with the combination of both, we can significantly reduce the requirement of antibiotics and anti-inflammatory drugs and save the patients from the side effects of these drugs. Though for more concrete results the study should be performed in large sample size on a multicenter trial There is no financial assistance has been received from any agency.

Compliance with ethical standards

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Approval of conflict of interest

There is no conflict of interest of author in the present study.

Statement of ethical approval

This is a case study that include an adult human subject after taking the informed consent. The study is being published retrospectively.

Statement of informed consent

An informed consent has been taken before starting the treatment of the patient.

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