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A case study of Necrotising Fasciitis w.s.r. to *Pittaja Dushta Vrana*

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ABSTRACT

Necrotising fasciitis is a spreading inflammation of the skin, deep fascia and soft tissues with extensive destruction, toxemia commonly due to *Streptococcus Pyogens* infection. It is common in old age, smoking, diabetes, immunosuppressed individuals. Trauma is the precipitating factor for this disease. It can occur in limbs, lower abdomen, groin, perineum etc. It needs intensive care with appropriate antibiotics and surgical debridement. *Vrana* is a condition which even after the complete healing, leaves a scar over the area, which stays as long as the person is alive. *Vrana* which has foul odour, has abnormal colour with profuse discharge, intense pain and takes longer time to heal is said to be *Dushta*. *Acharya* has mentioned separate treatment for the management of these *Vrana* in detail. It is a case report of a 46 year old male patient who presented with chief complaints of pain and swelling over the dorsum of the left foot with foul smell oozing purulent discharge with blackish discoloration since 1 week. He was examined and diagnosed as necrotising fasciitis and was managed with *Shodhana* therapy along with palliative treatment.

Key words: Necrotising fasciitis, *Vrana*, *Dushta Vrana*, Case Report

INTRODUCTION

The history of *Vrana* is as old as man itself. Initially, humans were cave - dwellers and hunter - gatherers, but later advanced to more civilized societies. But throughout this development, physical activities, adventures, experiments and battles were inevitable and hence, wounds were integral part of human life. Damage or destruction of a tissue or a part of the body

is termed as *Vrana*. Long standing and unhealed *Vrana* is known as *Dushta-Vrana*.^[1] There are external as well as internal factors which are responsible for the formation of *Vrana*. Necrotising fasciitis is a life-threatening soft tissue infection primarily involving the superficial fascia, it is characterised by rapid destruction of tissue, systemic toxicity, and if not treated aggressively leads to morbidity and mortality. Most cases commence with trauma to the skin surface, with seeding of bacteria. It is common in old age, smoking, diabetes, immune suppressed individuals. The main symptom is sudden swelling and pain in the part with oedema and discoloration, necrotic area and foul smelling discharge.^[2] While seeing the signs and symptoms it can be correlated with *Pittaja Dushta Vrana* having symptoms like *Daha*, *Paka* and *Peethaneelabha Varna* of *Twak*.^[3] *Acharya Susruta* has explained in detail about the management of *Vrana* by *Shastirupakrama* which start from *Apatharpana* to *Rakshavidhana Vidhi*.^[4] This is a case study of necrotising fasciitis with special reference to

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Pittaja Dushtavrana treated with both *Shodhana* and *Ropana* therapies.

CASE REPORT

A 46 year old male with poor socioeconomic status visited our *Shalyatantra* OPD on 29/12/2021 complaints of pain and swelling over the dorsum of the left foot with foul smell oozing purulent discharge and blackish discoloration since 1 week. He had a relevant past history of injury to the little toe by thorn prick. He removed the same by himself. Later he noticed swelling over the left foot and associated with pain. He visited nearby hospital and took medicine for the pain management. After consuming medicine he got relief of pain but the swelling got increased with blackish discoloration and noticed foul smelling discharge from the skin. He was a known case of diabetes mellitus since 2 years and under medication.

On physical examination general condition of patient was good, PR – 72/min, BP – 120/80mm Hg, RR – 21/min. No history of allergy and hypertension.

On examination

Swelling over the dorsum of left foot with foul smelling purulent discharge. The floor was covered with slough. Tenderness was also present with local rise of temperature. Laboratory investigations with CBC, ESR, urine routine and microscopy, HIV I and II, HBsAg was done and was diagnosed with hepatitis B infection with increased TC about 20,900, ESR 21mm/hr.

METHODOLOGY

Ayurveda intervention

Under aseptic precautions wound debridement was done on 29/12/2021 followed by *Gomutra Arka* cleaning and dressing with *Panchavalkala Kashaya*. A specimen of c/s was taken and was diagnosed with scanty growth of staphylococcus haemolyticus [Methicillin Resistant]. For pain management Inj Diclo 75 mg IM was advised SOS [after test dose].

Oral drugs and *Panchakarma* procedure

Tab *Chitrakadi Vati* 0-2-2 after food for 3 days was given for *Deepana* and *Pachana*.

Cap Grab 0-2-2 after food

From 5/01/2022

- *Avipattikara Choorna* 2 tsp with ½ glass hot water at bed time
- *Varanadi Kashaya* 15ml-0-15ml after food
- Tab *Punarnavadi Guggulu* 2-2-2 after food
- Tab *Kamadugha* with *Mukta* 1-1-1 before food
- Tab *Nirocil* 2-0-2 before food
- *Asanadi Kashaya* + *Nishaamalakadi Kashaya* 20ml-0-20ml before food.

Shodhana Therapy

After *Deepana Pachana*, *Shodhana (Virechana)* was planned. *Abhayantara Snehapana* was given with increasing dose from 30ml, 90ml and 200ml with *Pancha Tiktaka Ghrita*. After assessment of *Samyak Snigdha Lakshana*, *Sarwanga Abhyanga* and *Ushna Takradhara* was given for 3 days (2/01/22 to 4/01/22). *Virechana* was given with *Trivrit Lehya* (50gm) at morning 8.30 AM (4/01/22) with *Draksha Rasa* as *Anupana*. Patient had total 5 Vega. *Samsarjana Krama* was given for 1day. As the *Virechana Vegas* are less patient was advised to take *Avipattikara Choorna* 2 tsp with ½ glass hot water at bedtime for 5 days.

Dhoopana was done from 4/01/2022 to 8/01/2022

Patient was discharged on 10/01/2022

- *Varanadi Kashaya* 15ml-0-15ml after food
- *Asanadi Kashaya* 15ml-0-15ml before food
- Cap Grab 2-2-2 after food
- Tab *Kamadugha* with *Mukta* 1-0-1 before food
- Tab *Nirocil* 2-0-2 before food
- Tab *Tolpa D 1 SOS*
- Patient was advised to do daily dressing with *Panchavalkala Kashaya*

Follow-up treatment

Patient came to hospital again for follow up on 19/01/2022. Cleaning and dressing was done with

Panchavalkala Kashaya and patient was advised to continue the same oral medication for one more week.

Patient visited in OPD for follow-up on 25/01/2022, cleaning and dressing done and after proper assessment given medicine was advised Cap Grab 1-0-1 after food, *Varanadi Kashaya* 15ml - 0 - 15ml after food, *Asanadi Kashaya* 15ml-0-15ml before food, *Mehantaka Vati* 2-2-2 before food, Tab Nirocil 1-1-1 before food and was advised to continue daily dressing with *Panchavalkala Kashya*.

Patient visited on 2/02/2022 and cleaning and dressing of wound was done with *Jathyadi Ghrita* and was advised to continue same oral medication

On 16/02/2022 patient came for follow up and it was observed that the wound has healed completely.

Intervention

First treatment plan [30-12-2022 to 4-01-2022]					
<i>Virechana Karma</i>				Assessment	
30-12-2021 to 1-01-2022	Snehapana with <i>Panchatiktaka Ghrita</i>				Till <i>Samyak Snigdha Lakshana</i> attained
	Date	30-12-2021	31-12-2022	1-01-2022	
	Amount	30ml	90ml	200ml	
	Intake time	8.00 am	8.00am	8.00am	
	Appetite time	12.30 pm	1.30pm	2.00pm	
	Stool colour and consistency	Normal	Normal and semi liquid	Normal and liquid	
2-01-2022 to 3-01-2022	<i>Sarvanga Abhyanga</i> with <i>Dhanwantram Taila</i> followed by <i>Ushna Takradhara</i>			for 3 days	

4-01-2022	Virechana with <i>Trivrit Lehya</i> 50gm+ 100 ml <i>Draksha rasa as Anupana</i>	total Vega 5
4-01-2022 to 5-01-2022	<i>Samsarjana Karma</i>	

Shamana treatment plan 1st phase [05-01-2022 to 10-01-2022]

SN	Medication	Dose	Anupana
1.	<i>Avipattikara Choorna</i>	2 tsp with HS	½ glass Hot water
2.	<i>Varanadi Kashaya</i>	15ml-0-15ml after food	with 30 ml Hot water
3.	Tab <i>Punarnavadi Guggulu</i>	2-2-2 after food	Hot Water
4.	Tab <i>Kamadugha</i> with <i>Mukta</i>	1-1-1 before food	Hot water
5.	Tab Nirocil	2-0-2 before food	Hot water
6.	<i>Asanadi Kashaya</i> + <i>Nishaamalakadi Kashaya</i>	20ml-0-20ml before food.	with 40 ml Hot water

Daily dressing with *Panchavalkala Kashaya* for 1 week

Shamana treatment plan 2nd phase [11-01-2022 – 24-01-2022]

SN	Medication	Dose	Anupana
1.	<i>Varanadi Kashaya</i>	15ml-0-15ml after food	with 30 ml Hot water
2.	Cap Grab	2-2-2 after food	Hot Water
3.	Tab <i>Kamadugha</i> with <i>Mukta</i>	1-0-1 before food	Hot water
4.	Tab Nirocil	2-0-2 before food	Hot water
5.	<i>Asanadi Kashaya</i>	15ml-0-15ml before food.	with 40 ml Hot water

6.	Tab Tolpa D	1 SOS	
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Shamana treatment plan 3rd phase [25-01-2022 – 1-02-2022]

SN	Medication	Dose	Anupana
1.	Varanadi Kashaya	15ml-0-15ml after food	with 30 ml Hot water
2.	Cap Grab	1-0-1 after food	Hot Water
3.	Mehantaka Vati	2-2-2 before food	Hot water
4.	Tab Nirocil	1-1-1 before food	Hot water
5.	Asanadi Kashaya	15ml-0-15ml before food.	with 40 ml Hot water

Patient was advised to continue daily dressing with *Panchavalkala Kashaya*.

Shamana treatment plan 4th phase [2-02-2022 – 16-02-2022]

Cleaning and dressing of wound was done with *Jathyadi Ghrita* and was advised to continue same oral medication and dressing.

Investigations

Date	FBS	RBS	PPBS	TC
29-12-21	-	345 mg/dl	-	20900 cells/cumm
1-01-2022	-	-	-	18900 cells/cumm
8-01-2022	290mg/dl	-	299mg/dl	12000cells/cumm
25-01-2022	224mg/dl	-	288mg/dl	-

DISCUSSION

Vrana management has given prime importance in the time period of *Acharya Sushruta*. While seeing the signs and symptoms of this patient, it can be correlated to one among the variety of *Dushtavrana* i.e., *Pittaja*

Dushta Vrana. Here our main aim was based on the management of *Vrana* along with the management of diabetes and hepatitis. It involves both *Shodhana* and *Ropana*. *Shodhana* involves both internal as well as external therapy.

Acharya Susruta mentions that *Virechana Karma* is indicated in *Vrana* which is *Vatapitta Pradushta* and *Dheerkakalanubandha Vrana's* [chronicity of the ulcer]. Also, in the *Chikitsasutra* of *Dushta Vrana*, *Acharya* is telling to do *Urdhwa* and *Adha Shodhana* based on the vitiated *Dosha*.^[5] In this condition the vitiated *Dosha* is *Pitta* and also patient complaints of pain we can consider this condition as *Vata Dooshita Pitta Vrana*. Since it an *Adhosakhagata Roga* and *pitta* is the main *Dosha* here *Virechana* was planned with *Trivrit Lehya*. Prior to *Virechana Deepana Pachana* was done for *Agni Deepana* and *Amapachana* with *Chitrakadi Vati*. *Snehapana* was done as *Poorvakarma* to *Virechana*. Since *Pitta* is the main *Dosha* involved here and also the main drug of choice for *Snehapana* should be having anti-inflammatory, antimicrobial as well as having the property to not increase *Prameha*, *Panchatiktaka Ghrita* was advised for *Snehapana*.

After *Samyak Snigdha Lakshana* during *Visrama Kaala*, patient was advised to undergo *Sarvanga Abhyanga* followed by *Takradhara*. Here *Takradhara* was chosen because the patient was diabetic and was contraindicated for *Swedana* therapy.

After proper *Shodhana* therapy comes the importance of *Shamana Oushadi*. Here the more vitiated *Dosha* is *Pitta* and *Rakta*. So, internal medications was given for the management of these *Doshas* and also for his diabetes management and for hepatoprotective action. As these medicines are having antimicrobial, anti-inflammatory properties, it prevented the usage of antibiotics.

Choice of Shamana Oushadi based on the stage of the wound

Initially there was pus discharge, slough and foul smell *Dhoopana* was the indication as per the classics. It is also having the antimicrobial property and *Rakshogna* property as mentioned in *Agropaharaniya Adhyaya*.

Acharya is also telling the antimicrobial property of *Dhoopana* as a *Rakshogna Karma*.^[6] The pus culture and sensitivity report also shown the growth of staphylococcus haemolyticus. So, *Dhoopana* was adopted in the initial days.

For wound care we have used *Gomootra Arka* for cleaning. It is having *Katu, Tikta* and *Kashaya Rasa* which was *Krimighna* in nature which will help in the inhibition of growth of microorganisms as well as act a *Shodhana Dravya*.^[7] Dressing was done with *Panchavalkala Kashaya* which was having *Ropana* property. Studies indicate that the pharmacological action of *Panchavalkala* is found to have anti-inflammatory, analgesic and antimicrobial property. Tannins present in *Nyagrodha* and *Udumbara* are antioxidants and blood purifiers with anti-inflammatory actions. This might have helped in decreasing swelling. The phytosterols and flavanoids present in them are anti-inflammatory and analgesics reducing pain.^[8]

After the discharge of the patient follow-up was done on OPD basis. When the wound became healthy with good granulation tissue and devoid of slough, for accelerating healing dressing was done with *Jathyadi Ghrita*.



01/01/2022



14/01/2022



19/01/2022



30/12/2021



25/01/2022



1/02/2022

CONCLUSION

Vrana which smells badly, having profuse discharge, discoloration, severe pain and takes prolonged time to heal is considered as *Dushta vrana*. The features of *Dushtavrana* varies depending upon the vitiated *Doshas* present in it. *Acharya Susrutha* has mentioned various aetiologies for the formation of *Vrana*. While going through the signs and symptoms of this patients along with the aetiologies we can correlate it with Necrotising fascitis. Necrotising fascitis is an *Aganthuja Dushta Vrana* where the main line of treatment is debridement and proper antibiotic coverage, in olden

days our *Acharya* managed these condition by the help of *Shashtirupakrama*. In this case we have adopted proper *Shodhana* as well as medication therapy in which complete healing of the ulcer was noticed within a time period of 1 month and 18 days.

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