

## Ayurveda Management in Surgical Site Infections after haemorrhoidectomy -A Case Report

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### ABSTRACT:

A non-healing surgical wound can occur after surgery when the wound caused by an incision didn't heal properly as expected. It is usually caused by infection and is a rare but serious post-surgical complication. Surgical site infection is usually occurring 30 days after surgery. In this case report a 47-year-old female patient came to OPD with complaints of an infected post-surgical wound in the anorectal region without any signs of natural healing. The wound failed to heal by the conventional management for one month. The basic line of treatment for *dushta vrana* is adopted here to manage the surgical site infected wound which includes *vrana shodhana* (wound cleaning) followed by *vrana ropana* (wound healing). Ayurveda has effective internal medicines and local applications for the management of *dushtavrana*. By proper ayurvedic line of management *dushtavrana* healed completely within 68 days without any signs of recurrence within 2 months of follow-up. In this case, surgical site infection managed successfully by Ayurvedic medicine support only without the use of any antibiotics.

**KEY WORDS:** *Dushtavrana*, surgical site infection, *vranasodhana*, *vrana ropana*.

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### INTRODUCTION:

Proper healing of the wound within a short period is a challenging issue in surgical practice. Surgical site infection (SSI) is the second most common complication of surgical procedures 'next to postoperative pneumonia' due to virulent bacterial entry, altered wound microenvironment, and changed host defense. [1] SSI usually occurs within 30 days of surgery at the site of surgical incision. It may endanger life of the patient due to septicaemia.[2] Increasing resistance to antibiotics by the microbes is a major challenge in healing of post-surgical

wounds [3]. Other causes of poor wound-healing depend on the type and location of the surgical procedure, health status of the patient, improper post operative wound care including rest and other factors. The infected post-surgical wound requires utmost care and treatment to avoid further complications and to promote faster healing. In Susrutha samhitha, it is stated that if *vrana* is not treated properly at the initial stage then it may get converted into a non-healing complicated wound i.e., *Dushtavrana*. *Vrana* which smells badly (foul odour), has abnormal colour with profuse discharge,

intense pain, and takes a long period to heal is said to be *dushta*.<sup>[4]</sup> Ayurveda suggests different modalities for the management of *dushtavrana* including surgical, para surgical, and non-surgical treatments. *Shashtirupakrama* (sixty treatment modalities) is mentioned in Ayurveda literature for the management of *vrana* which includes *vranasodhana* (wound cleaning), *vranaropana* (wound healing), *udsadana* (encouraging granulation tissue formation), *krishnakarma* (pigmenting procedures), *pandukarma* (restoration of the normal skin colour of the scar) etc. The initial management of *dushtavrana* aims to get rid of slough and discharge, relieve pain and burning sensation, and promote granulation tissue formation. Ayurveda also recommended the use of various drugs in *dushtavrana* like; *Manjisthadi*, *Jatyadi*, *Durvadi*, *Yashtimadhu*, *Aragwadadi* etc. In surgical site infection, non-surgical approaches were done to convert the infected wound (*dushtavrana*) to a healthy wound state and healing it properly.

#### CASE HISTORY:

A 47-year-old non-diabetic female patient consulted in Shalya tantra OPD at Govt. Ayurveda college Hospital, Tripunithura, Kerala, with complaints of a painful non-healing wound in the perianal region. According to the patient, she had undergone surgery for haemorrhoids 1 month back from an unauthorized clinic (reports were unavailable). But the post-surgical wound at the perianal region didn't show any signs of healing even after 1 month of the surgery. Throughout the post-surgical period she had taken antibiotics and applied allopathic

ointments topically. Later the painful non-healing wound with profuse purulent discharge and foul smell disturbed the quality of life of the patient. The patient did not seek further management to her problem, being in a sensitive region and suffer the pain in silent until it goes out of her control. At last, she came to Ayurveda hospital and was admitted in IPD on 10.11.2020.

Her bowel habit was irregular as she was hesitated to pass stool through the wounded anal region, afraid of severe pain. Appetite was reduced due to over anxiety and pain of the wound and she has a habit of skipping meals, usually breakfast. Micturition was within the normal limit. Her sleep was reduced, which was less than 3 hours due to severe pain from the suffering site. She has a history of dyslipidaemia and thyroid dysfunction and was under medication of Thyronorm 50mg daily before food.

On examination, there was a slit open wound with slough and foul smelling profuse yellowish purulent discharge at the right side close to the anus. The wound measures 14cm x 4 cm x 7 cm in size, with irregular inflamed margin and hyperpigmented surrounding skin. [Fig-1] Temperature was raised at surrounding area of the wound and grade-2 tenderness was noted. Routine laboratory investigations for blood and urine tests were done and her blood report found raised Total WBC count and ESR. Her vitals were found normal.

*Prakrithi* of the patient was assessed and was found to be *vatha-pitha* predominant. *Dosha avastha* of the *vrana* was *kapha-pitha* as it has *lakshanas* like *peetha varna*, *khanasruthi* etc.

**TREATMENT GIVEN AND RESULTS:**
**Table-1: Treatment prescribed and Time line:**

Treatment type	Duration	Details of treatment	Remarks
Samana Chikitsa	9.11.20 to 15.01.21	<i>Gugguluthikthakam kashayam</i> 90ml twice daily before food	Anti-inflammatory
	9.11.20 to 15.01.21	Tab. <i>Kaisora guggulu</i> 2-0-2 with <i>kashayam</i>	Anti-bacterial action
	9.11.20 to 15.01.21	<i>Brihat triphala choornam</i> 1 tsp with hot water at bed time	Easy evacuation of stool, promotes healing
	16.11.20 to 15.01.21	<i>Guggulu thikthakam ghtitham</i> 1 tsp twice daily after food from <i>sudhavastha</i> onwards	From <i>sudhavastha</i> onwards
Vrana Karma-Local Treatment	On 10.11.21	Surgical debridement under local anaesthesia	Devitalized tissues removed
	9.11.20 To 05.01.21	Rubbing of the sloughy area and margin of the wound with <i>Thutha</i> (CuSO <sub>4</sub> ) was done twice weekly	have <i>lekhana</i> action
	9.11.20 to 15.01.21	Cleaning of the area done with <i>Triphala Kashaya</i>	For <i>vrana sodhana</i>
	9.11.20 to 15.01.21	Dressing done with <i>Jathyadi ghritha</i>	<i>vrana sodhana</i> & <i>ropana</i> action
	9.11.20 to 15.01.21	Advised for <i>avagaha sweda</i> with <i>triphala Kashaya</i> every morning	For <i>vrana sodhana</i>
Pathya Advised	9.11.20 to 15.01.21	<ul style="list-style-type: none"> <li>to avoid sour, salty, spicy, and oily food, curd, day sleep etc</li> <li>to take easily digestible warm food preparations</li> <li>to follow non-constipating diet</li> </ul>	
Follow up Medicines and advices	15.01.21 to 25.01.21	<ul style="list-style-type: none"> <li><i>Gugguluthikthakam ghritham</i> 1tsp twice daily after food for 1 month</li> <li><i>Brihath triphala choornam</i> half tsp with hot water at night daily for one month</li> <li>to avoid sitting in hard and irregular surface for long time, two-wheeler riding etc</li> <li>Advised to continue <i>pathya ahara</i></li> </ul>	

**Table-2 Changes in Blood Report before and after Treatment:**

Blood Profile-13/11/2020	Blood Profile-12/01/2020
<ul style="list-style-type: none"> <li>• Total WBC count-11300 cells/cu mm</li> <li>• ESR- 110 mm/hr</li> <li>• Hb- 9.9 gm %</li> <li>• FBS- 100 mg/dL</li> <li>• Total cholesterol-224 mg %</li> <li>• HIV, HbsAG, VDRL- negative</li> </ul>	<ul style="list-style-type: none"> <li>• Total WBC count-9400 cells/cu mm</li> <li>• ESR- 25 mm/hr</li> <li>• Hb- 12 gm %</li> </ul>


**FIG-1**
**1<sup>st</sup> Day (9.11.20)**

Wound with slough on floor, inflamed and irregular margin, foul smell, and pus discharge. The surrounding area was hyperpigmented. Severe pain and tenderness were present (*Dushtavrana*).


**FIG-2**
**7<sup>th</sup> day (16.11.20)**

Wound size reduced and slough got disappeared. Granulation tissue appeared over the wound floor. Foul smell and pus discharge were absent. The wound margin became regular with no signs of inflammation (*Sudhavrana*).


**FIG-3**
**29<sup>th</sup> day (7.12.20)**

Marked reduction in the size of the wound with epithelialization. The hyperpigmentation over the surrounding area decreased (*Ruhyamanvrana*).


**FIG-4**
**68<sup>th</sup> day (15.01.21)**

Granulation tissue got disappeared and complete epithelialization of vrana was attained. Wound closed with leaving minimum scar tissue (*Rudavrana*).

## DISCUSSION

Infected post-surgical wound requires intense care and treatment to avoid complications and to promote proper healing. Wound treatment includes cleaning the area, wound irrigation, and frequent surgical dressing with wound inspection. Medications to prevent infection and to relieve pain are also advisable. Education and counselling about wound care, diet and nutrition, and home care are also needed for the patient.

Ayurvedic wound management approach involves a wide range of local as well as systemic measures to promote early and effective healing with minimal complications and sequelae. The basic line of treatment for *dushta vrana* is *vrana shodhana* (wound cleaning) followed by *vrana ropana* (wound healing). Therefore, the primary aim of treatment in *dushtavrana* is to convert it into *sudhavrana* state by *vrana sodhana* treatment. Later healing process can be accelerated by *vrana ropana*, which occurs fast in *sudha vrana*.

Wound management involves both internal medications as well as local applications to promote the effective healing of wounds. Wound debridement is important for removing slough and to convert it into *sudhavrana*. The drugs which have *katu*, *tikta* and *kashaya* rasa have *shodhana* and *ropana* effect.

In the initial stage of the management, *vrana sodhana* was achieved by cleaning the wound with *triphala kashaya*. It has *sodhana*, *samshamana*, *lekhana* (Scrapes out unwanted tissues), *tridoshaghna*, and *sothahara* (anti-inflammatory) actions that help to make the wound clean. [5] As the wound is much close to the anal canal, the wound may get contaminated daily during defaecation. In order to reduce the abundance of infective agents at the wound site, *avagaha* with *triphala kashaya* in the morning after defaecation was also advised

daily to the patient. *Triphala* also have wound healing action. Rubbing of the sloughy area and the wound margin was done with *Thutha* (Copper sulphate) having *lekhana* property by which a chemical debridement was achieved. [6] That is, *dushtavrana* made free from damaged and dead tissue which arrested further neighbouring tissue damage.

*Jathyadi ghritha* having both *sodhana* and *ropana* properties which help in the proper cleansing and healing of *Dustha Vrana*. [7]

During the treatment period, *samana kashaya* advised was *Guggulu thiktakam kashayam* [8] having indication in *vrana* by its anti-inflammatory action. *Gulika* advised was *Kaisoraguggulu* having antiallergic, antibacterial, anti-microbial, anti-inflammatory and blood purifying properties. *Brihat triphala choornam* was given to the patient for the easy evacuation of stool without irritating the wound as it was near to the anal canal. *Thriphala* has also a direct action on wound healing due to *sarirakleda upayukta* (absorbs the fluid) and *lekhana* (scrapes out unwanted tissues) like *karmas*. From the *sudhavrana* stage onwards, *gugguluthiktakam ghritham* was administered to enhance *vrana ropana*.

As a result of these treatments, *dushtavrana* attained *sudhavrana* state within 7 days and converted to *rudavrana* stage after 42 days, and healed completely within 68 days. Anal spasm and sphincter tone were preserved after complete healing of the wound. Increase in the Haemoglobin count from 9.9gm% to 12gm% during treatment helped to accelerate the wound healing process. There is also observed a marked reduction in elevated Total WBC count and ESR which shows the effectiveness of anti-inflammatory and anti-bacterial action of ayurveda medicines. In 3 weeks of follow-up, the scar tissue didn't show any signs of recurrence.

**CONCLUSION:**

This case study has highlighted the potential of Ayurvedic line of approach in the management of infected postsurgical wound. Here, the wound healed completely with minimal scar tissue by preserving anal spasm and sphincter tone within 68 days using ayurvedic medications. Ayurvedic treatment protocol achieved a successful result in the management of Surgical site infections (SSI) without the use of any antibiotics. It reduced patient sufferings cost effectively as compared to surgical intervention.

**INFORMED CONSENT OF THE PATIENT:**

The consent of the patient has been obtained at the time of admission for the treatment and publication without disclosing the identity of the patient as per medical ethics.

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