

Extraction of *Krimi* (maggots) in *Dushtavrana* (Non-healing ulcer) by *Susrutha*'s concept of *Mamsaachadana*: A Rare Case Report

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Abstract:

An ulcer is a break in the continuity of epithelium-skin or mucous membrane. It may either follow molecular death of surface epithelium or its traumatic removal and a non-healing ulcer is unresponsive to dressings and treatments and it can be correlated with *dushtavrana*. Contamination by bacteria and foreign bodies were said to be one cause of delayed healing of wounds. This is a case report of 64 year old male with a chronic ulcer since six months on dorsum of left foot containing numerous maggots which was also affected with severe pain and tenderness. The extraction of maggots was done by *mamsaachadana* (*aja mamsa*/ meat of goat) technique explained by *acharya susruta* in *shashtirupakrama*. The ulcer was clean and without maggots in five days. Cleaning and dressing was done with triphla kashaya and jathyadi grutha and the complete remission of ulcer occurred within two months. This case study highlighted that sushruta concept can be adopted with positive outcome in the management of *dushtavrana* with *krimi*.

Keywords: *Dushtavrana*, Maggots, *Mamsaachadana*, *Shashti upakrma*.

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Introduction:

An ulcer is a break in the continuity of epithelium-skin or mucous membrane ^[1]. It may either follow molecular death of surface epithelium or its traumatic removal. And a non-healing ulcer is unresponsive to dressings and treatments ^[2] *Dushtavrana*/ Non- healing ulcer is a common encountered problem during surgical practice. It is biggest challenge to medical profession from *vedic* period onwards. Generally the wound heals by three ways ie, primary intention, secondary intention and tertiary intention. Sometimes it fails to

heal by some other factors like maggot infestation, chronic diabetes etc. By analyzing the literature of *Ayurveda* we can find ample description about *dushtavrana* which is formed by the failure of natural healing process. *Acharya susruta* dedicated one chapter of his *chikithsa sthana* which was explained by 60 *upakramas* for curing *dushtavrana* with its several stages. While describing these *upakramas* *acharya* mentioned about *krimighna upakrama* as 50th measure. The *dushtavrana* which was affected by maggots are removed by washing with

surasadi gana, ksharodaka and gomoothra. In addition to this acharya mentioned like this “*prachaadya mamsapeshya va kriminapahareth vranath*”.^[3]

Mamsapeshi should be placed over maggot infested ulcer and removed after sometime. Maggots are attracted to *mamsapeshi* and it should be removed along with *mamsapeshi*. The presence of maggots in an ulcer leads to severe pain, swelling and itching sensation. *Mamsa achadana karma* in maggots infested *dushtavrana* stated by the pioneer legendary Indian surgeon followed by fundamental principles *vraṇa upakrama*.

Case report:

A 64 year old male patient came to outpatient department of Govt. Ayurveda college hospital, Thripunithura on 30/03/2021 with complaints of a non-healing ulcer on the dorsum of left foot since 06 months. He consulted an allopathic physician and took some pain killers and local ointments (medicines name not clear). The condition got reduced.

After 4 months he again developed with same condition with itching, scaly lesions, and blackening of left dorsum of foot. He again went to the doctor and took some local injection to reduce pain and swelling. He used to take pain killers also during this time. He used to stand for a long time by his occupation, by doing this condition got aggravated and he came to our OPD. On the first day of visit he came with a bandage on left dorsum of foot and when the bandages were removed numerous maggots were found inside the ulcer.

On first day consultation the primary examination revealed the following, (30-03-2019)

In past history patient was k/c of hypertension, Diabetes mellitus, Dyslipidemia and Traumatic injury.

In personal history, Bowel: Constipated, Appetite: Reduced, Diet: Mixed, Sleep: Disturbed due to pain

Local examinations:

Site of wound: dorsum of left foot Inspection: Single ulcer over the dorsum Irregularly oval in shape- 4cm*3cm Edge & Margin- Irregular Floor- Covered with slough and necrotised tissue Numerous maggots present Surrounding skin – Glossy, pale, oedematous Palpation: Grade 3 tenderness Depth cannot be ascertained due to presence of maggots.

Examination of vascular insufficiency- All peripheral pulses are palpable with full volume.

Examination of Lymphnodes- Inguinal lymphnodes over left side enlarged and tender

Examination of nerve lesions- no sensory deficit noted bilaterally

Materials required:

Kidney tray, cotton balls, *triphala kashaya*, 250g of *ajamasa*, sterile water, gauze roll, artery forceps, plain pad, *jathyadi grutha*

Therapeutic intervention:

The condition was diagnosed as *dushtavrana* (Fig- 1) and the first and foremost task was removal of maggots from the ulcer. The bandage was removed and by using mosquito artery forceps maggots were extracted manually from left foot (Fig-2) but during extraction the subject was presented with severe pain and fainting. The condition was managed and treatment plan was changed as *mamsaachadana* which was explained in *susrutha samhitha*.

The left foot ulcer (maggots present) cleaned with sterile water and covered with 250 grams of *saraktha aja mamsa* after a clean wash with sterile water (Fig-3). Then after 10 hours the *mamsa* was removed (Table-1). Internal medications provided were postulated in (Table-2). No analgesics or antibiotics were advised during the hospital stay. 8th day

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onwards (08/04/2019) instead of plain pad dressing done with *jathyadi grutha*. Internal

medications were changed to Table no:3 which were used in *Ropana stage* (Fig-8).

Table-1: Time line:

Date	Clinical features before <i>mamsachaadana</i> (08:00 am)	After <i>mamsachaadana</i> (4:00 pm)	Fig no and dressing status
31/03/2019	<ul style="list-style-type: none"> Tenderness grade 3 Severe pain and numbness over left foot Fainting Itching sensation Foul smell 	<ul style="list-style-type: none"> 70% of maggots were attached to <i>ajamasa</i> Tenderness grade 3 Bleeding present Itching sensation persists Foul smell persists 	<p>Fig-4 (<i>mamsaachadana</i>)</p> <p>Fig-5-after removal <i>mamsa</i> from the ulcer</p> <p>Dressing done plain pad and gauze</p>
01/04/2019	<ul style="list-style-type: none"> Tenderness grade 3 Numbness reduced No fainting Itching sensation reduced Foul smell reduced 	<ul style="list-style-type: none"> 20 % of maggots were attached to <i>ajamasa</i> Tenderness grade 3 Bleeding considerably reduced Itching sensation reduced Foul smell absent 	<p>Cleaning with <i>triphala kashaya</i> and Dressing done with plain pad</p> <p>Fig-6</p>
02/04/2019	<ul style="list-style-type: none"> Tenderness grade 2 Itching sensation persists Pain reduced 	<ul style="list-style-type: none"> Number of maggots was too less Ulcer was clear without slough and necrosis 	Fig-7
04/04/2019	<p>All maggots were extracted from the ulcer</p> <p>All the symptoms got reduced</p>		

Table-2: Internal medications (31/03/2019 to 12/04/2019))

Internal medications	Dosage
<i>Guduchyadi Kashaya</i>	90 ml bd before food
<i>Chandraprabha tab</i>	2-0-2 with <i>Kashaya</i>
<i>Surasasavam</i>	25 ml bd a/f
<i>Kanmada bhasama</i> capsule with <i>triphala Kashaya</i> (30 ml)	2-0-2 after food
<i>Avipathikara choorna</i>	1 tea spoon at bed time with hot water

Table-3: Internal medications (14/04/2019 to 28/05/2019)

Internal medications	Dosage
<i>Drakshadi Kashaya</i>	180 ml (<i>Muhurmuhu</i>)
<i>Chandraprabha Tab</i>	2-0-2 with <i>Kashaya</i>
<i>Balarishtam</i>	15 ml bd a/f
<i>Vitpala keram</i>	Surrounding area of wound

<i>Avipathi choornam</i>	1 tea spoon with hot water at bed time
<i>Surasasavam</i>	15 ml with <i>balarishtam</i>
<i>Kanmada bhasma</i> capsule	2-2-2 with <i>triphala kashaya</i> (30 ml)

Clinical Images:



Fig-1: Non healing ulcer at left foot (30/03/2019)



Fig-2: Manual extraction of maggots from non-healing ulcer (30/3/19)



Fig-3: 250 gram *saraktha ajamamsa*



Fig-4: *Dushtavrana* bandaged with *ajamamsa*



Fig-5: after *mamsachaadana* (4:00 pm On 31/03/2019)



Fig- 6: (01/04/2019)



Fig-7: Status of wound on 02/04/2019



Fig- 8: Status of wound on 28/04/2019



Fig-9: Status of wound on 25/05/2019

Result and Discussion:

The technique of *mamsachadana* was found to be highly significant in extraction of maggots from a wound. The patient was happy on second day onwards when 70% of maggots were taken out of the wound. At the end of the treatment for a period of 2 months the ulcer got healed completely and there was no discomfort after treatment (Fig-9). All the other symptoms like irregular bowel habit, enlargement of inguinal lymphnodes were revealed with in these periods. There was no recurrence of symptoms during follow up period also.

The invasion if skin and subcutaneous tissue by larvae or maggot is known as maggot infestation. The maggots had eaten away the most of healthy tissue which shows affliction of maggots which has to be removed the earliest to prevent further tissue damage. The patient may experience painful swelling, crawling sensation etc. In modern science surgical debridement under local anesthesia, application of chloroform or ether followed by broad spectrum of antibiotics.

In the present case an innovative technique advised which was described by Acharya Susrutha in *shashtirupakrama 'mamasachadana karma'*.it is a simple procedure, the affliction of maggots towards healthy tissue leads to the complete extraction

of it from the wound. The non- healing ulcer present on left leg responded very well to medications.

The medications provided during these periods were, *Guduchyadi Kashaya* is *pitha sleshmahara* which maintains *raktha sudhi* produces significant effect in *twak vikara* by its *pitha harathwa*.^[4] *Kanmada bhasma* capsule reduces *kledatwa* in the body and *pitha samana* in nature. Along with *triphala kashaya* it acts as *rasayana* and *kushtagna*.^[5] *Drakshadi kashaya* is mentioned in *jwara prakarana* and it possess an anti-inflammatory action since all the components are *seetha veerya* and *pitha samana*.^[6] *Triphala kshalana- kshalana karma* itself is a *pitha samana* which in turn results in *raktha sudhi* also. It also possesses *kledaharathwa* and promotes wound healing also.^[7] *Jathyadi grutham* is best drug for *vrana sodhana* and *vrana ropana*. Presence of ingredients like *thutha, nimba, patola, katuki, manjishta* acts as *raktha sodhaka* and *kushtagna*.^[8] *Gandhaka rasayana* by fibroblast activation and by modulation of the proteins involved in tissue remodeling. It acts as *kustaghna, kandughna* and also used in vascular disorders.^[9] *Kaisora guggulu* has anti allergic antibacterial and blood purifying properties. It acts as a skin health protector and natural blood cleanser.^[10]

Conclusion:

Here an attempt was made to treat a maggot infested *dushtavrana* which was extracted by *mamsaachadana karma* explained by Acharya susruta which yields best results in extraction.

Limitation of Study:

Sterilization of *ajamamsa* was difficult.

Patient consent:

The written consent was taken before treatment and for publication of his data in scientific journals.

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