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Study On Effect Of *Apamarga Ksharaplota* In *Dermofibrosarcoma* – A Case Study

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ABSTRACT

Vrana and process of healing is the soul of *shalya tantra*. *Dushta Vrana*, or an infected wound, is defined as being vitiated by *Dosha*. As a result, it has unpleasant odor, unusual color with copious discharge, excruciating pain, and a prolonged healing period. Depending on the severity of the infection and its wide range of causes, the wound need to be cleaned and dressed, to close the wound and stabilize the patient and surgery might be necessary.

According to *Acharya Sushruta*, *Kshara* is having both *kshanana* and *ksharana* properties. Using a piece of gauze, the *Ksharaplota* formulation was chosen and applied to the affected or infected wound. *Ksharaplota* is prepared by coating it with *Snuhi kshira*, *Apamarga kshara*, and *Haridra*. These medications are having *Shodana*, *Ropana* and *Lekhana* properties. Due to a sustained release of medication, the ability to absorb discharges, and a less painful and easily accepted dosage by the patient. The clinical study has been done on a case of *Dermofibrosarcoma* was treated with local application of *Ksharaplota*. The clinical assessment was done based on clinical presentation of *Dushta Vrana*, (Infected wound) before and after the treatment.

Key words: *Dushtavrana*, Fibrodermosarcoma, *Ksharaplota*, Infected Wound, Alkaline Medicated Gauze.

INTRODUCTION

Vrana & process of healing is the soul of *Shalya Tantra*. *Sushruta's* definition of *Shalya Tantra* emphasizes five critical elements: *Samprapti* (pathogenesis), *Upadrava* (complications), *Chikitsa* (treatment), *Lakshana* (symptoms), and *Vrana Nidana* (wound diagnosis), each essential for effective surgical practice and patient care¹. Research scholars were encouraged to gain expertise in managing *Vrana* through various skilled modalities because, during *Sushruta's* time, *Vranakovida*² was considered a specialized field of excellence. This expertise encompassed the diagnosis, prognosis, and treatment of wounds, making it a highly regarded super specialty in the medical practice of that era³.

Infected wounds, or *Dushta Vrana*, are characterized by vitiated *doshas*, which lead to distinct symptoms including an offensive odor, unusual color, copious discharge, severe pain, and a prolonged healing period⁴. *Dushta Vrana* typically encompasses cuts, lacerations, punctures, and other pathological wounds that affect both the skin and underlying tissues, highlighting their complexity and the need for specialized management⁵.

The standard protocol for managing an infected wound includes cleansing the wound, applying a sterile saline solution, and removing any debris. Following this, an antibiotic gel is used to combat infection, and a sterile dressing is applied to keep the wound clean and protected⁶. Many patients tend to avoid surgical debridement due to psychological, physical, or fear-related reasons. As a result, there is a need for non-surgical debridement methods, also known as Parasurgical Techniques⁷. In his texts, *Acharya Sushruta* mentions various approaches for wound management, including *Kshara*, which is described in the *Anu-shastra*, *Upayantra*, *Agropaharaniya* and among the *Upakramas* for *Vrana*.

Local *Ksharakarma* (*Pratisarana*) application. Studies have shown that *Kshara* is having *Ropana*, *Shodhana* and *Lekhana* properties can help to manage *Dushta Vrana*. However, there are some disadvantages to applying *Kshara* (*Avachuranana*): it cannot be applied evenly, it hurts when applied because of direct exposure, it can only be used for a short time, *Kshara karma* requires the assistance of tools and the intervention of a skilled medical professional, there is a lack of *Vrana Srava Shoshana* (absorption of discharge & necrotic tissues) & also the procedure is difficult to accept and tolerate. *Sushruta* has provided nine dressing materials, such as *Vikeshika*, *Plota*, *Pichu*, and *Kawalika* etc... These include *Pichu*, which is used to clean the *Vrana* as well as absorb the *Vranasrava*, and *Kawalika*, which is used as a dressing pad or simply to cover the wound. Both covering and cleaning the *Vrana* can be accomplished with *Plota*. It can also be used as *Varti* in extremely deep wounds or ulcers that are difficult to clean. *Plotavarti* eliminates all of the debris that is hidden inside these types of wounds or ulcers.

The ingredients for *Ksharasutra*, which is widely used for the treatment of fistula in ano and the debridement of unhealthy granulation tissues, are *Snuhi kshira*, *Apamaraga Kshara*, and *Haridra* powder. This formulation is chosen and applied over the affected infected wound with the aid of an alkaline medicated gauze piece based on the excellent results demonstrated by *Ksharasutra*. *Ksharaplota* is prepared by coating it with *Apamarga Kshara*, *Haridra*, and *Snuhi Kshira*. Since *Ksharaplota* is used for debridement, or the removal of unhealthy tissue, and because it promotes the formation of healthy granulation tissue to enhance quick normal epithelium development, all these medications are *Shodhana*, *Ropana* and *Lekhana* in *Karma*.

Ksharaplota was found to have good *Sodhana*, *Ropana* and *Lekhana*, a sustained release of medication, the ability to absorb discharges, and a less painful and easily accepted dosage by the patient. As a result, the current study, "Assess the Effectiveness of *Ksharaplota* in *Dashta Vrana* w.s.r. to Infected Wound (fibrodermosarcoma)" was carried out.

Thus, in present study, an effort was made to establish the scientific validity of *Ksharaplota* in the management of *Dushta Vrana* (Dermofibrosarcoma) and to investigate its *Shodhana* (debridement), *Ropana* (wound healing) and *Lekhana* properties.

Case report:

A male patient aged 66 years R/O Hassan, Karnataka, came in OPD of Shalya Tantra department in SDM College of Ayurveda and Hospital on 22/7/2023 in an apprehensive condition. He had the following complaints in the last 4 years.

1. Pain and swelling in right axilla region (measures aprox: 6x6x5)
2. Non-Healing ulcer in right axilla region
3. Blackish discoloration over right axilla region
4. Restricted movements of right shoulder

Past History: He had undergone excision of swelling in 2007 and again recurrent swelling in 2019 and underwent for the same in 2020. HPE suggestive of low grade malignant salivary fibrous tumour.

Diagnosis: Arbuda / Dermofibrosarcoma

Treatment given:

Shodana:

1. *Snehapana* with *Pancha Tikta Guggulu Ghrita* given for 4 days
2. *Classical virechana* with *Avipattikara choorna* 40gm + *Triphala Kashaya* 100ml + Honey
Quantity sufficient.
3. *Snighda upanaha* over Right Arm with *Rasna* + *Eranda* + *Devadaru* + *Murivenna Taila*
4. *Matra Basti* with *Pancha Tikta Guggulu Ghrita*
5. Wound Dressing with *Ksharaplota*

Shamana:

1. *Patolokaturohinyadi Kashaya* 15ml BD with Luke warm water
2. *Panchatkitha guggulu ghrita* 10ML BD A/F with Luke warm water

Observation



**BEFORE
HOURS**



DURING



AFTER 24

Ksharaplota

- Normal saline was used to wash the infected wound in these cases.
- After that, sterile dressing was applied by Ksharaplota once a day.
- Up to 7 days, or until Shuddha Vrana Lakshanas appeared, this procedure was carried out.

In this case report, normal saline was used to wash the infected wound.

The prepared ksharaplota was placed over the infected wound and sterile pad placed over it and aseptic wound packing was done upto 24 hours then after that the wound wash was given with normal saline & betadine followed by sterile dressing.

Materials and Method of Preparation

- Ksharaplota
- Bandage

METHOD OF PREPARATION OF DRUG

Preparation Ksharaplota

Ksharaplota was prepared at the Institute's department of Shalya Tantra following are the materials used for Ksharaplota preparation.

- *Snuhikshira (Euphorbia nerifolia)*
- *ApamargaKshara (Butea monosperma)*
- *Haridra churna (Curcuma longa)*
- Single layer Gauze piece
- Wooden Ring
- Cabinet

Snuhi Kshira: It was collected by taking an incision over the stem of Snuhi plant. The secreted milk (*Kshira*) was collected and stored in a pot. As *Snuhi Kshira* has a tendency to coagulate early, hence every time fresh *Snuhi Kshira* was taken.

Apamarga Kshara: Whole *Apamarga* plant was taken and cut in pieces; after drying the plant in shade It was burned in light fire and ash was collected. The ash was dissolved in water, in the ratio 1:6. i.e., 1 part ash and 6 parts waters. The solution, so formed was filtered with the help of percolator. Residual ash was again dissolved in 4 parts of water and the same procedure was repeated at least twice in order to take away all the alkaline material from the ash. Ultimately, the ash remains as a neutral residue, which should be thrown, the fluid was filtered several times (filtering once in a day) and finally, the *ApamargaKshara* was obtained by evaporating the filtered solution.

Haridra: Dry rhizomes of Haridra Plant were cut into pieces and powdered which was then sieved through a fine cloth. The fine powder thus obtained was stored in clean and sterile container **Gauze Piece:** According to Sushruta, gauze piece is similar to *Plota*. It is a piece of woven surgical wool. A single layer gauze piece was used to prepare the required *Ksharaplota*.

Wooden ring: A structure of double ring was used to hold the gauze piece. With the help of this ring, gauze piece was held tightly so that coating of *Sunhi Kshira*, *Apamarga Kshara* & *Haridra* was made very easy & effective.

Cabinet: It was used for drying the *Ksharaplota*. The prepared *Ksharaplota* on wooden rings was kept in an air tight cabinet for drying, sterilization & storage purpose.

***Ksharaplota* preparation**

- A square gauze piece, 10x10 cm in diameter was taken.
- This gauze piece was held so tight that the coating can be done uniformly.
- Initially on 1st day quantity sufficient *Snuhikshira* was applied with the help of small cotton swab over the gauze on its entire circumference.
- The wet coated gauze with rings was placed inside the cabinet for drying for 1 day.
- On 2nd day dried gauze was again smeared with quantity sufficient *Snuhikshira* followed by quantity sufficient of *Apamarga Kshara*. This was again dried in the cabinet for a day.
- On 3rd day dried gauze was again smeared with quantity sufficient *Snuhikshira* followed by quantity sufficient *Haridra Churna*.
- The prepared gauze was kept in the cabinet for drying.

Discussion:

Ksharaplota was applied after 4 days of *snehapana* followed by *shodana* of *Classical Virechana*. *ksharaplota* composed of *Snuhi* (Euphorbia) and *Apamaraga* (Achyranthes aspera), exhibits both *Ksharan* (caustic) and *Kshanan* (scraping) properties. *Apamargakshara*, a component, contributes to tissue cauterization due to its *Ksharana* Guna. Conversely, *Haridra* (turmeric) provides *Krimighana* (antimicrobial), *Lekhana* (scrabing)and *Ropana* (healing) properties, facilitating *Vrana Shodhana* (wound cleansing), *Vrana Ropana* (wound healing) and *Vrana Lekhana*.

The chemical characteristics of *Ksharaplota* effectively eliminate unhealthy tissue, and its alkaline nature imparts an aseptic and antimicrobial effect, reducing the risk of secondary infection. The sticky *Snuhi* component offers a moisturizing effect, enhancing connective tissue synthesis and promoting epidermal migration. The binding property of *Snuhi* latex extends the benefits of *Apamarga Kshara* by ensuring prolonged effects such as debridement, scraping, hemostasis, asepsis, antisepsis, and healing.

In general, *Ksharaplota* possesses various therapeutic attributes for treating wounds and cuts, including penetration, scraping, draining, debridement, sclerosing, healing, as well as antibacterial and anti-inflammatory effects. The synergistic action of these components in *Ksharaplota* enhances its overall effectiveness in managing wounds, promoting healing, and preventing infection.

Conclusion:

Ksharaplota demonstrated significant efficacy in reducing symptoms associated with *Dushta Vrana*, such as *Vrana Vedana* (pain), *Vrana Daha* (burning sensation), *Vrana Kandu* (itching), *Vrana Srava* (discharge), and *Vrana Shotha* (swelling). The study aimed to assess the effectiveness of *Ksharaplota* in treating these symptoms, and both clinical and statistical results confirmed its effectiveness.

Among Parasurgical Procedures, *Ksharaplota* stands out as the most cost-effective, safe, simple, and patient-friendly option. It is considered a viable first-line treatment for *Dushta Vrana* (infected wounds), offering a practical solution for managing infected wounds effectively.

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