

Case Study

Role of Apamarga Mrudu Kshara Fortified Ribbon Gauze for Assessing Shodhana Effect in Post-Incision and Drainage Wound – A Single Case Study

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A B S T R A C T

An abscess is a collection of pus in any part of the body, in most cases it causes swelling and inflammation around it. Standard procedure for abscess management is incision and drainage which is widely practiced and considered the most effective intervention. Post incision and drainage (I&D) wound is a surgically created wound for the better healing of an abscess. Delayed or impaired wound healing is a common concern in patients after incision and drainage, hence it is essential to focus on strategies that promote straight forward and uncomplicated healing.

Based on signs and symptoms of abscess, in Ayurveda it can be correlated to Vidradhi. As per Acharya Sushruta, if Vidradhi has achieved Pakva Avastha, then the abscess cavity has to be drained and Vranavat Chikitsa has to be adopted in order to avoid complications. For Vranavat Chikitsa, Acharya Sushruta has described Shastiupakramas (60 procedures) to achieve good approximation, early healing, and minimal scarring. Among these Upakramas, Kshara plays a unique role in the management of Vrana. By fortifying sterile ribbon gauze with Kshara Jala, a dual action is achieved i.e. faster slough disintegration through the chemical cautery effect of Kshara, and enhanced absorption by the ribbon gauze, which aids in quicker drainage and healing of the abscess cavity.

Conclusion: The Shodhana effect of Apamarga Mrudu Kshara fortified ribbon gauze in post Incision & Drainage (I &D) wounds is found to be effective in all the assessment parameters.

Keywords: Vidradhi, Apamarga, Mrudu Kshara, Incision & Drainage, Abscess, Ribbon Gauze

Introduction

An abscess is a collection of pus in any part of the body, in most cases, it causes swelling and inflammation around it.¹ Incision and Drainage is considered as the standard treatment modality for an abscess and is the most widely performed procedure. It has a high healing rate with only a 10% recurrence rate.² Post incision & drainage (I&D) wound is a surgically created wound for the better healing of an abscess. Betadine-soaked ribbon gauze has been commonly used for dressing Post incision & drainage(I&D) wounds. However, its effectiveness can be delayed due to inactivation by organic materials such as blood, pus, and necrotic tissue, and it may cause hypersensitive reactions in up to half of the patients.³ As per Ayurveda, Acharyas define Vidradhi as “Sheegra Vidhahitvat Vidradhi” which suggests the virulence of disease.⁴ As per Acharya Sushruta, if Vidradhi has achieved Pakvaavastha, then the abscess cavity has to be drained and Vranavat Chikitsa has to be adopted in order to avoid recurrence.⁵ Acharya Sushruta has described Shastiupakramas (60 procedures) for the management of Vrana to achieve good approximation, early healing, and minimal scar. Among these Upakramas, Kshara plays a unique role in the management of Vrana.⁶ This approach represents an effort to introduce, validate, and standardize a novel method for the Shodhana of Post-incision and drainage wounds, addressing a critical need in current wound care.”

Case Study

Patient name: XYZ

Age/Gender: 43yrs/Male

Occupation: IT employee

Socioeconomic status: Upper Middle Class

Presenting Complaints

A 43-year-old male patient visited Shalya Tantra OPD on 20/06/2023 for the following complaints pain, swelling, and reddish discoloration over the right shoulder associated with fever since 5 days.

EXAMINATIONS: - Examination of swelling over Right Shoulder

On Inspection

Rubor (+)

Tumor (+)

Discharge (-)

On Palpation

Calor (+)

Dolor (++)

Fluctuation test (+)

Induration (+)

Investigations

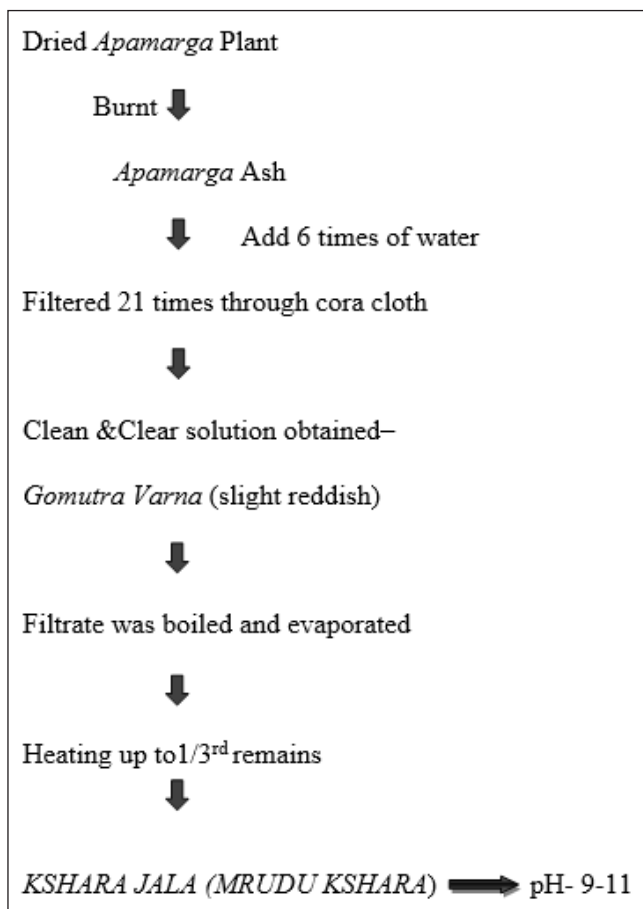
Blood investigations: Hemogram: Total leukocyte count: 13,700 (moderate leukocytosis)

Hb%, ESR, BT, CT, RBS: Within Normal Limits

- **Renal function test:** Blood urea, and serum creatinine were within normal limits
- **Liver function test:** Serum bilirubin, SGPT, and SGOT were within normal limits HIV 1&2, HBsAg: Negative

Materials and Methods

Method of Preparation of Apamarga Mrudu Kshara⁷



Preparation of Apamarga Mrudu Kshara Fortified Ribbon Gauze

- A sterile ribbon gauze is taken, which is standardized to 100 cm.
- Apamarga Mrudu Kshara Jala was taken in a sterile bowl, then the sterile ribbon gauze was dipped in a Apamarga Mrudu Kshara Jala and mild squeezing was done to remove the excessively absorbed liquid.
- Post that the same ribbon gauzes were kept in a hot air oven at a temperature of 100 degree Celsius for an hour.

- fortified ribbon gauze is packed uniformly. Dressing done with sterile pad.

Assessment: 0th, 2nd, 4th and 7th day

Follow Up: On 14th day and 21st day.

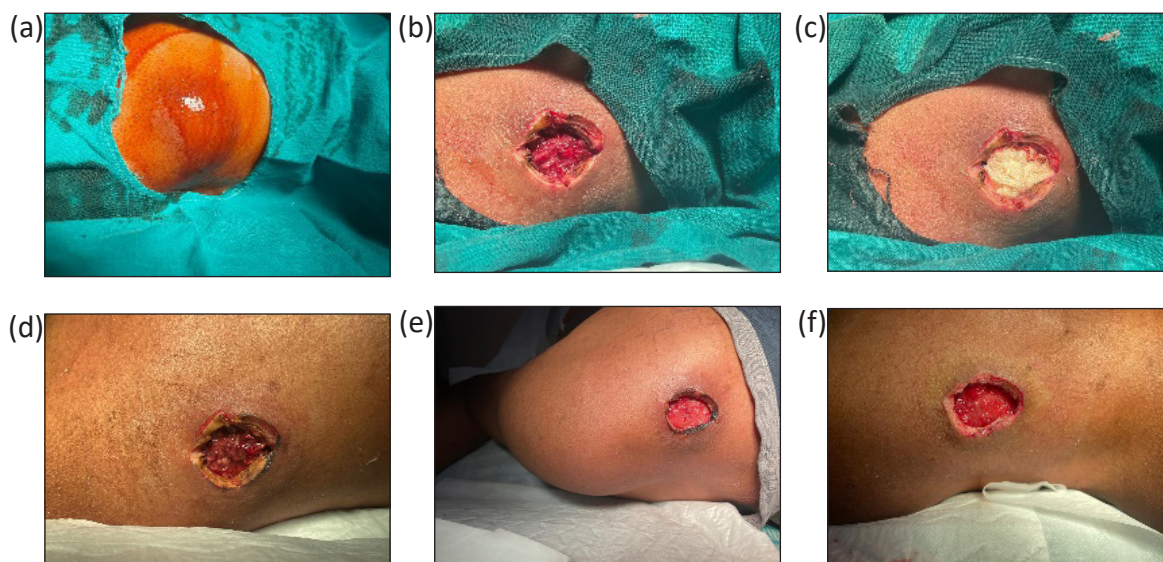


Table I. Showing the Assessment – using VAS scale

Assessment	Day 0	Day 2	Day 4	Day 7
Pain ⁸	8	8	5	2
Burning sensation ⁹	3	2	2	1

	Day 0	Day 2	Day 4	Day 7
Tenderness ¹⁰	3	2	1	0
Floor granulation Tissue ¹¹	3	2	1	0

[illegible][illegible]

Pusculture ¹²– on 0th day on 7th day

Results

- **Pain and Burning Sensation:** A significant reduction in pain and burning sensation was observed on post-op day 07, as assessed by the Visual Analog Scale (VAS).
- **Tenderness:** Significant reduction in tenderness was observed by the end of the study, i.e., on post op day 07.
- **Floor & Granulation Tissue:** Healthy granulation tissue with no slough was observed on the post op Day 07.
- **Microbiological Findings:** The pus culture demonstrates the effectiveness of the Apamarga Mrudu Kshara fortified ribbon gauze from post-operative day 0 to post-operative day 7.

Discussion

Betadine-soaked ribbon gauze is a conventional choice for post-I&D wound care. However, its effectiveness is often limited due to inactivation by organic materials (e.g., blood, pus, necrotic tissue) and hypersensitivity reactions in patients.

The Shastiupakramas (60 procedures) for wound management emphasize Kshara for its unique role in promoting granulation, reducing infection, and accelerating healing. This method offers a natural, cost-effective, and efficient alternative to synthetic antiseptics and dressings. By preventing complications such as induration, slough retention, and infection, it can potentially reduce hospital stays and enhance patient outcomes.

Fomentation followed by incision and drainage, later dressing of the wound, are well established treatments in modern science for abscesses. Exactly the same is seen in Ayurvedic literature about Vidradhi. Pratisaraniya Kshara penetrates deep by its Ushna, Teekshna, Anu Gunas and Sukhanirvapy Guna does Vilayana of Kapha, Anulomana of Vata, and Pachana of mamsa and Medas in immediate contact and deeper tissues in due course, which further leads to Lekhana, Shodhana followed by Ropana of Incision & Drainage wound.

Apamarga Mrudu Kshara Provides a mild chemical cauterization that dissolves necrotic tissue and promotes wound debridement, enhancing wound cleansing and reducing the risk of delayed healing.

Ribbon gauze ensures uniform application and absorption of wound exudates, preventing wound maceration.

Reduced dressing change frequency and overall simplicity of the method can improve compliance.

Conclusion

Kshara, being an Anushastra, possesses Chedana, Bhedana, Lekhana, Pachana, Vilayana, Ropana, Shoshana, and Stambhana Karmas.¹³ It also does Shodhana of Dushta Vrana, removing all slough/dead tissue, once

the Vrana becomes Shuddha, it further enhances wound healing. This case study concludes that Apamarga Mrudu Kshara Fortified Ribbon Gauze was found to be effective at reducing pain and induration of the surrounding tissue, and granulation tissue formation, and has also shown faster reduction in discharges, and size of wound and it supports uncomplicated healing. Hence, the study can be conducted on a large scale to further validate the efficacy and benefits of Apamarga Mrudu Kshara fortified ribbon gauze in wound management, providing more comprehensive insights into its therapeutic potential.

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