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A study to evaluate the role of *Lavanga Taila Varti* in Postoperative Pain Management in Partial Anal Sphincterotomy - A Case Report

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ABSTRACT

A patient's speedy recovery and shorter hospital stay depend greatly on effective postoperative pain management. It is imperative for surgeons to prioritize pain reduction or elimination from the very first day of the procedure until the patient is capable of resuming their daily activities without any discomfort. Partial Anal Sphincterotomy is widely acknowledged as the standard treatment for chronic anal fissures. In order to manage postoperative pain, contemporary analgesics are typically utilized. It is important for Ayurveda practitioners to explore alternative options to the standard diclofenac suppositories that are typically utilized for reducing postoperative pain in anorectal surgeries. This will help to ensure that patients receive effective pain relief while also avoiding any potential side effects or complications associated with the use of diclofenac suppositories. *Vata* is the causative factor for pain and *Lavanga Taila* is known for its *Tridoshaghna* and *Shoola Hara* properties, it is taken up in the form of *Guda Varti* as an effective mode of analgesia in postoperative pain after partial anal sphincterotomy. Therefore, a 36 years old male patient who underwent Partial Anal Sphincterotomy under local anaesthesia was administered *Lavanga Taila Varti* every eighth hour for 3 days postoperatively. **Conclusion:** *Lavanga Taila Varti* was found to be effective in reducing post-operative pain after partial anal sphincterotomy. *Varti* administration represents a convenient, alternative route of drug administration. They are safe and easier for administration with a higher rate of bioavailability, and less wastage, can target delivery systems with a lower dose and reduce systemic toxicity.

Key words: *Postoperative pain, Partial Anal Sphincterotomy, Guda Varti, Lavanga Taila Varti*

INTRODUCTION

Postoperative pain is considered a form of acute pain due to surgical trauma with an inflammatory reaction and initiation of an afferent neuronal barrage. It is a combined constellation of several unpleasant sensory, emotional and mental experiences precipitated by the surgical trauma and associated with autonomic, endocrine-metabolic, physiological and behavioral responses.[1]

Partial anal sphincterotomy is a widely employed surgical intervention for the management of chronic fissure-in-ano. The procedure involves partial dissection of the hypertrophied and fibrosed band of the internal anal sphincter which is left open to heal by itself.[2] Patients who have undergone partial sphincterotomy have been observed to experience a significant amount of post-operative pain.

According to contemporary science, pain management is normally done with IV analgesics, I.M. injections or

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rectal suppositories which are non-steroidal anti inflammatory drugs. Prolonged use of these drugs may suppress the symptoms but causes adverse reactions like Edema, Hypertension, Tachycardia, Constipation, Headache, Dizziness, Rectal Bleeding, Abdominal Cramps etc. and are also highly nephrotoxic.[3]

Practitioners in the field of *Shalya Tantra* strive to acquire efficient pain management remedies that can ease post-operative discomfort and reduce dependence on contemporary medicines.

Lavanga having *Shoola-Hara* property has been mentioned by various *Acharyas* in our classical texts like *Bhavapraksha Nighantu*.[4] Eugenol composes 72-90% of the essential oil extract from *Lavanga* (clove buds) and has pronounced anesthetic properties, depresses sensory receptors involved in pain perception by inhibiting prostaglandin biosynthesis.[5] The rectal route of administration has various advantages like higher bioavailability of the drug, faster onset, shorter peak and prevents any amount of drug from being lost due to emesis.[6] Hence, Ayurvedic drugs in the form of *Varti* can be adopted for effective management of pain post-operatively.

Case History

Patient information: A 36-year-old male patient with no co-morbidities approached our OPD section with complaints of severe pain during defecation associated with streaks of blood for 1 year.

Clinical findings: During the clinical examination, it was observed that there is an acute-on-chronic fissure along the posterior midline. Additionally, a sentinel tag was found at the 12 o'clock position. On performing a digital rectal examination, it was observed that the sphincter was hypertonic.

Materials and Methods

Method of preparation of *Lavanga Taila Varti*

Materials required

- *Lavanga Taila* - 0.5 ml
- *Madhuchishta* - 1.5ml
- Vessels
- Sterile gloves
- Spatula
- Suppository mould

Procedure

- *Madhuchista* will be heated by the double boil method.
- After which *Lavanga taila* will be added to the liquid after it is taken off the flame and prepared into a *Varti* by *Bhawana* method under all aseptic precautions.
- The mix is then put into the suppository mould and refrigerated for 3 hours, at 4 degrees Celsius.
- The mould is then taken out and the *Varti* is packed in aluminium wrap and preserved in the refrigerator.

Procedure

Lavanga Taila Varti was inserted immediately after the completion of the surgical procedure and then every 8th hour for 3 days.

Duration of the Treatment - Three Days

Therapeutic Intervention

Informed surgical consent was taken and pre-operative assessments were performed, which were within normal limits. Partial anal sphincterotomy was performed under local anesthesia. *Lavanga Taila Varti* was inserted immediately after the completion of the surgical procedure. Then every 8th hour for 3 days and assessment was carried out in two phases as per score based on the Visual Analogue Scale.[7]

Results

Lavanga Taila Varti was found to be effective in reducing post-operative pain after partial anal sphincterotomy.

Follow-Up and Outcomes

Phase 1

Subject was monitored immediately after insertion of suppository, where VAS was 0 then, every 20 mins for first 2 hours postoperatively.

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- Time of insertion of the first *Varti* - 04:00 pm

Table 1: Phase 1 of assessment of post operative pain

Varti insertion	20th min	40th min	60th min	100th min	140th min	180th min	At 8th hour (from the time of insertion)	16th hour	24th hour
VAS Score	0	0	2	4	4	5	6	4	4
Time	4:20 pm	4:40 pm	5:00 pm	05:20 pm	05:40 pm	06:00 pm	12:00 Mid night	08:00 am	04:00 pm

Phase 2

The subject was monitored every 12 hours for the next 48 hours post- operatively

Table 2: Phase 2 of assessment of post operative pain

	36th hour	48th hour	60th hour	72nd hour
VAS score	4	3	3	2
Time	04:00 am	04:00 pm	04:00 am	04:00 pm

DISCUSSION

The *Ayurvedic* treatises of *Charaka Samhita, Sushruta Samhita, Bhaishajya Kalpana, Sharangdhara* and others widely discuss the concept of *Vartis*, which helps to understand the importance and effectiveness of rectal drug administration.

Suppository formulations have been developed in close synchronization with *Varti Kalpana* by contemporary science.

The modern approach to manage postoperative pain involves the use of analgesics and NSAIDs, which are harmful and have variously recorded adverse drug reactions (ADRs).

The essential oil extract from *Lavanga*, also known as clove buds, contains 72-90% of Eugenol. This chemical compound has been found to possess significant anaesthetic properties, which can be attributed to its ability to depress sensory receptors involved in pain perception. This mechanism is achieved by inhibiting prostaglandin biosynthesis.[5]

Lavanga Taila is renowned for its efficacy in mitigating pain and balancing the three *Doshas.* Additionally, the application of *Guda Varti* facilitates the proper flow of *Apana Vayu,* which, in turn, aids in reducing discomfort.

Individuals who present with a history of anaphylactic responses towards NSAIDs are at a higher risk of experiencing a comparable reaction to diclofenac. Indicators of such reactions can include urticaria, flushing, alterations in heart rate, bronchospasm, angioedema, hypotension, and additional symptoms.[8] Conversely, *Lavanga* is a safer substitute that does not trigger hypersensitivity reactions.

Drug absorption through the rectal route → Portal circulation is bypassed → prevents the biotransformation of the drugs in the liver.[9]

Rectal pH is 7 - 8 which has no buffering capacity, hence the form of the drug administered is not changed chemically in the rectal environment [10]

After careful observations and assessment, a new approach to postoperative pain relief for anorectal surgeries was developed. The method involves rectal drug administration, which offers several advantages over traditional methods. This approach aims to provide patients with more effective and comfortable pain relief, helping them to recover faster and with less discomfort.

CONCLUSION

Lavanga Taila Varti in post-operative pain management is a novel approach which has *Lavanga Taila* as a main ingredient which is proven for its anaesthetic and analgesic properties. *Lavanga* is one of the widely discussed drug in the field of *Ayurveda* and can be regarded as a safer drug compared to NSAIDs as it does not trigger hypersensitive reactions and therefore can be considered as a new modality in the form of *Guda Varti* to manage post-operative pain after partial anal sphincterotomy. Additional research

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studies are required to gain a deeper understanding of pain management utilizing *Varti* in *Ayurveda.*

Figure 1: Prepared *Varti*

Figure 2: Packing of *Varti*

Figure 3: Posterior Partial Anal Sphincterotomy using Electrocautery

Figure 4: Post Partial Anal Sphinterotomy

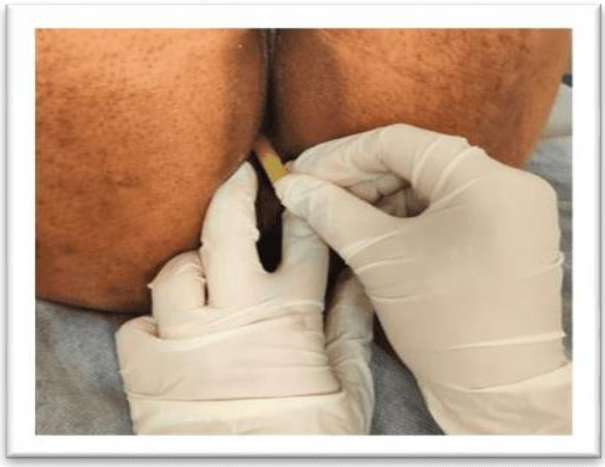

Figure 5: Insertion of *Lavanga Taila Varti*

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