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SAFETY AND EFFECTIVENESS OF PROLENE THREAD PROBING (AISHAN KARMA) IN THE MANAGEMENT OF DUCTAL ECTASIA: A SINGLE CASE REPORT

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ABSTRACT

Background: Mammary duct ectasia is a non-neoplastic disorder of the breast characterized by dilatation of the major lactiferous ducts accompanied by chronic inflammation and retention of inspissated secretions. Patients commonly experience nipple discharge, periareolar pain, tenderness, or nipple inversion, and recurrent symptoms may eventually require surgical intervention. Ayurveda emphasizes the restoration of normal channel patency (Srotoshodhana) in conditions resulting from obstruction. The surgical principle of **Aishan Karma** described by Acharya Sushruta provides a conceptual basis for gently exploring and relieving obstructed passages. The present report describes the use of a sterile prolene thread as a minimally invasive probing technique for symptomatic ductal ectasia. **Aim:** To assess the safety and clinical effectiveness of prolene thread probing (Aishan Karma) in a patient with symptomatic ductal ectasia. **Case Description:** A 43-year-old woman presented with intermittent pain in the right breast, sticky yellowish nipple discharge, mild nipple retraction, and recurrent periareolar discomfort for six months. Breast ultrasonography demonstrated dilatation of the central lactiferous duct with retained secretions and without abscess formation or suspicious solid lesion. After appropriate clinical evaluation and informed consent, gentle probing of the affected duct using a sterile prolene thread was performed under aseptic conditions to restore ductal patency, followed by evacuation of retained

secretions. Appropriate Ayurvedic oral medications and local care were advised during follow-up. **Results:** The procedure was completed without intraoperative or postoperative complications. Pain progressively subsided, nipple discharge resolved completely, nipple retraction improved, and follow-up ultrasonography demonstrated a reduction in duct calibre. **Conclusion:** Prolene thread probing based on the principle of Aishan Karma may represent a safe, simple, and minimally invasive option for carefully selected patients with symptomatic ductal ectasia. Further studies involving larger patient populations are necessary to validate these preliminary observations.

KEYWORDS: Ductal ectasia, Aishan Karma, Eshana Karma, Prolene thread, Breast surgery, Ayurvedic Shalya Tantra.

INTRODUCTION

Ductal ectasia is a benign inflammatory disorder involving dilatation of the major subareolar ducts of the breast. The condition is generally encountered in middle-aged women and may present with nipple discharge, localized pain, tenderness, nipple inversion, or recurrent inflammation around the areola. Accumulation of thick secretions within the ducts often produces mechanical obstruction, leading to persistent symptoms and repeated episodes of infection.

Management depends on the clinical presentation and exclusion of significant underlying pathology. Although conservative treatment can provide symptomatic improvement, recurrence is not uncommon. Patients with persistent complaints are frequently managed by surgical excision of the involved ducts, which, despite its effectiveness, is associated with operative morbidity and alteration of normal ductal anatomy.

Ayurvedic Shalya Tantra describes several fundamental surgical procedures collectively known as **Ashtavidha Shastra Karma**. Among these, **Aishan** represents the principle of exploration or probing of a pathological pathway using an appropriate instrument. The fundamental objective is to evaluate or negotiate an obstructed or abnormal passage while minimizing unnecessary tissue injury.

Ayurvedic surgery describes **Aishan Karma** as a method of carefully exploring obstructed channels using suitable instruments with minimal trauma to surrounding tissues. Applying this classical principle to mammary duct obstruction, flexible prolene thread probing may

facilitate evacuation of retained secretions while preserving the integrity of the ductal system. This report presents the clinical outcome of such an approach in a patient with symptomatic ductal ectasia.

CASE PRESENTATION

A 43-year-old multiparous woman attended the Shalya Tantra outpatient department with complaints of intermittent right-sided breast pain, sticky yellowish nipple discharge, and gradual nipple retraction for six months. The symptoms had become more frequent over the preceding three months and were associated with mild discomfort around the areola.

The patient had previously received multiple courses of antibiotics and analgesics from a local practitioner, which provided only temporary symptomatic relief. She denied fever, breast trauma, palpable breast lump, weight loss, previous breast surgery, or a family history of breast malignancy.

General physical examination revealed stable vital signs and satisfactory general health. Local examination demonstrated mild inversion of the right nipple with expression of thick yellowish discharge from lactiferous ducts. Mild periareolar tenderness was present, while no discrete breast lump or axillary lymphadenopathy was detected.

Routine hematological investigations were within normal limits. Ultrasonography of the breast demonstrated dilatation of the central lactiferous duct measuring 8.2 mm with retained intraductal secretions. No abscess, suspicious solid lesion, or radiological features suggestive of malignancy were identified. The clinical and radiological findings established the diagnosis of symptomatic mammary duct ectasia.

Intervention

After explaining the procedure and obtaining written informed consent, the patient was placed in the supine position. Standard aseptic precautions were maintained throughout the procedure.

The affected duct opening was identified by gentle compression of the areola. A sterile surgical grade prolene-0 thread was carefully introduced through the ductal orifice without applying excessive force. Slow advancement of the thread allowed gentle exploration of the duct while minimizing the risk of tissue injury. Gentle compression over the surrounding breast tissue facilitated evacuation of thick retained secretions.

Following adequate drainage, the prolene thread was subsequently withdrawn, and a sterile dressing was applied. The patient remained under observation for a short period before discharge.

Supportive Ayurvedic medications were prescribed along with advice regarding breast hygiene and scheduled follow-up.

Outcome

The procedure was well tolerated without excessive pain, bleeding, duct perforation, infection, or allergic reaction.

A noticeable reduction in breast pain was observed within one week. Nipple discharge progressively decreased and had completely resolved by the third week. Gradual correction of nipple retraction was also noted during follow-up.

Repeat ultrasonography performed after six weeks demonstrated a reduction in duct diameter from 8.2 mm to 4.8 mm, indicating restoration of ductal drainage. The patient remained symptom-free during the subsequent three months without recurrence.

Parameter	**Before intervention**	**Follow-up**
Right breast pain	Present	Progressively reduced
Sticky yellowish nipple discharge	Present	Completely resolved by 3 weeks
Nipple retraction	Mild	Improved
Central duct diameter	8.2 mm	4.8 mm at 6 weeks
Infection/abscess	Absent	Absent
Procedure-related significant complication	None	None observed
Recurrence	Presenting symptoms	No recurrence during 3 months

DISCUSSION

Ductal ectasia primarily results from obstruction of the lactiferous ducts by retained secretions associated with chronic inflammatory changes. Persistent obstruction increases intraductal pressure, producing pain, discharge, and secondary tissue inflammation. Therefore, successful treatment should not only address inflammation but also restore ductal drainage.

The present case demonstrates that prolene thread can function as a flexible probing material

for performing Aishan Karma. Gentle passage of the thread through the affected duct appears to facilitate removal of obstructing secretions while minimizing tissue trauma. From an Ayurvedic perspective, ductal obstruction may be interpreted as **Srotorodha** involving the **Stanya Vaha Srotas**. Mechanical restoration of the ductal pathway corresponds to the principle of removing obstruction and re-establishing normal flow. Improvement in symptoms observed in this patient may therefore be explained by successful restoration of ductal patency together with reduction of local inflammatory changes.

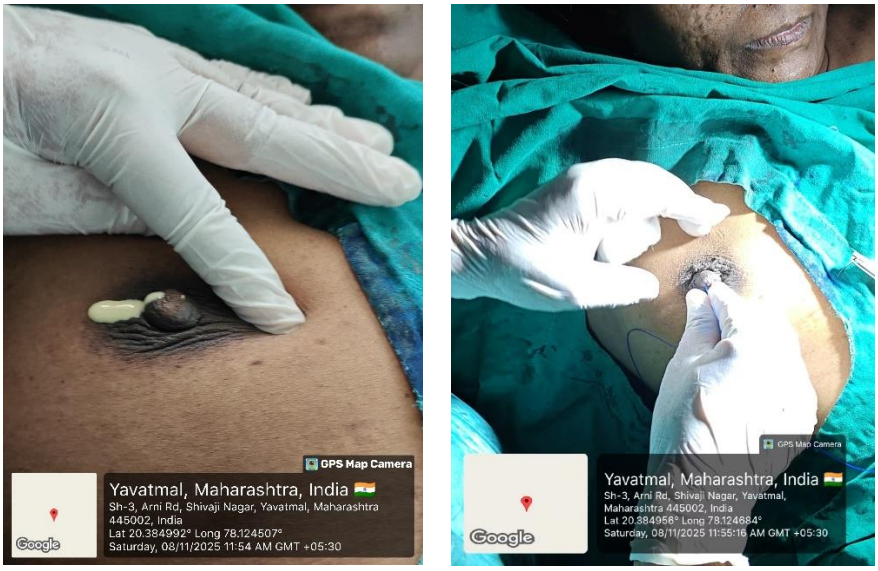
The absence of procedural complications suggests that the technique can be performed safely when appropriate patient selection, strict aseptic precautions, and meticulous operative technique are observed. Nevertheless, this report represents the experience of a single patient, and the findings cannot be generalized without further clinical investigation.

CONCLUSION

This case indicates that prolene thread probing performed according to the principle of Aishan Karma may offer an effective minimally invasive approach for selected patients with symptomatic ductal ectasia. The intervention successfully relieved ductal obstruction, eliminated nipple discharge, reduced pain, and improved ultrasonographic findings without producing procedure-related complications. Controlled clinical studies involving larger patient populations and longer follow-up are required before this technique can be recommended as a routine therapeutic option.

Clinical Significance

This case highlights a novel application of the Ayurvedic surgical principle of Aishan Karma using a prolene thread for the management of symptomatic ductal ectasia. The technique may provide a simple, inexpensive, tissue-preserving alternative for carefully selected patients and warrants further systematic evaluation.



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