

Integrated Management of Pharyngocutaneous Fistula following Papillary Thyroid Carcinoma Surgery: A Single Case Report

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ABSTRACT:

A Pharyngocutaneous fistula (PCF) is an abnormal communication between the Pharynx and the skin that allows the leaking of saliva and ingested food particles through an opening in the skin. Its occurrence of a pharyngocutaneous fistula (PCF) after head and neck cancer surgery is a serious complication. *Ksharakarma* is useful as the substitute of surgical instruments because they can be used safely on the patients who cannot undergo surgery. *Kshara* possess inherent property to destroy unhealthy tissues. The pharmaceutical and medicinal utility of the Biosalts have interesting and appreciable aspect from applied point of view as the *Kshara* may liquefy the phlegm and fat and thus clear the body channels, causes necrosis when applied on infected tissue by its caustic action, and thereby promotes wound healing from the base. Here, a 52 year old woman with Pharyngocutaneous Fistula (PCF) over left side of neck, post thyroidectomy status - Papillary Carcinoma of Thyroid since 2 months. She underwent *Ksharakarma* (*Apamarga Tikshna Kshara*) followed by twice daily dressing with *Jatyadi Taila* over the affected part along with oral Ayurveda medication has been given with monitoring of signs and symptoms. The patient got relieved from all previous signs and symptoms like pain, discharge; without any adverse events of treatment. *Kshara* is a caustic, alkaline in nature obtained from the ashes of medicinal plants known for *Vrana Shodhana* (purification of wound) and *Ropana* (healing) properties. Application of *Kshara*, leads to debridement of the fibrous tissue and at the same time remaining wound will be healed by its scraping and healing property. Because of all these properties of *Kshara*, it was taken here for managing recurrent Pharyngocutaneous fistula. This treatment was well-tolerated by the patient and is affordable, available treatment for the patient and requires very less hospitalization.

KEYWORDS: Ayurveda, Carcinoma Thyroid, *Kshara Karma*, Pharyngocutaneous Fistula

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INTRODUCTION:

Pharyngocutaneous fistula is a common complication following surgeries like laryngectomy, thyroidectomy. It leads to increased morbidity, delay in adjuvant treatment, prolonged hospitalization and an increase in treatment costs. The method of closure of the pharynx and not being harmed during surgery is of importance in preventing fistula formation. The original problem leading to PCF is the attempt at primary closure with insufficient pharyngeal mucosa. Local wound care and maintenance of adequate nutrition and blood volume also have a role. Large fistulae must be closed by providing adequate epithelial lining to complete the pharyngeal wall as well as a replacement for cervical skin.^[1] *Kshara*^[2] is named so as it destroys the vitiated tissue and makes them sloughed out. Since *Kshara* is formed by the combination of many plant drugs, it mitigates the *Tridosha*, being white in colour it is cool; though being cool, its burning, ripening, bursting actions are not hindered; because of predominance of *Agneya* drugs it is pungent, hot, penetrates deep, causes ripening, liquefaction, purification. *Ksharakarma* is useful as the substitute of surgical instruments because they can be used safely on the patients who cannot undergo surgery.

Ksharakarma is minimally invasive procedure when compared to surgical procedure so application of *Kshara* is found to be safe, efficacious and cost-effective method of treatment. It also has mild post-operative pain, no bleeding, minimum hospitalization and less chances of recurrence. Through its properties helps in removing the unhealthy granulation tissue and helps

in healing of the wound from the base. Use of *Ksharakarma* in the context of Pharyngocutaneous fistula is very rare and there were no studies done in such cases so this study has been carried out to evaluate the *Ksharakarma* in healing of such recurrent non-healing chronic Pharyngocutaneous fistula.

CASEREPORT:

A 52 years old homemaker female from Hassan, Karnataka, India came with chief complaints of a non healing wound in anterior aspect of left side of neck since 2 months associated with pain in left submandibular regions since 20 days, purulent discharge from left submandibular region since 7 days and continuous fever since 2 days. She had history of Papillary carcinoma of thyroid and had underwent total thyroidectomy followed by Radioiodine therapy in 2010. Presented with local regional recurrence was treated with palliative Telecobalt therapy with Ryles tube in-situ. After palliative Telecobalt therapy, she was started on Tab Sorafenib 400mg/day till date.

She undertook ENT surgeon opinion for correction of PCF and was referred to a speciality centre and took treatment for her complaints but did not find relief so came to us for further management. There is no history of any addiction. Her sleep was disturbed due to pain and other personal history was not significant. There was no history of weight loss, hoarseness of voice, headache, earache, fungation, neck stiffness, and altered mental status. On examination general condition of the patient was good, oriented to time, place and person. Lymphadenopathy was present on left side pre and post auricular, upper

cervical and sub-mandibular group of lymph nodes. Pulse rate was 72 bpm which was regular and normovolaemic, blood pressure was 130/90 mm of Hg, temperature was 97.8°F, and respiratory rate was 18/min. Systemic examination did not reveal any abnormality.

On local examination there was an external opening in anterior side of neck in left sub-mandibular region. External opening was about 4x4 cms in size, surrounded by edematous tissue. There was discharge of blood mixed pus with presence of unhealthy tissue. Leaking of fluid through the opening was observed when the patient was asked to drink water.

On palpation the temperature was raised, tenderness was present but was not exquisitely tender. Surface was irregular. There was mild induration over surrounding area. The examination of temporomandibular joint, oral cavity, ears, salivary glands revealed no abnormality. Based on the clinical features it was diagnosed as Pharyngocutaneous fistula. Her routine blood investigations showed normal values where Haemoglobin was 10 gm%, total WBC count was 11,500 cells/cmm and ESR was 60 mm in

1st hour.

Chest x-ray and USG-abdomen & pelvis were normal. Her Serological tests were non-reactive and Thyroglobulin level was normal.

THERAPEUTIC INTERVENTION:

Ksharakarma with *Apamarga Pratisaraniya Tikshna Kshara* was done under Local anaesthesia over the slough with 5-6 ml *Kshara*.

Kshara was applied over and inside the infected tissues using sterile cotton bud and *Kshara* was kept there for around 1 minute and which later was washed with *Nimbu Swarasa* (Lemon juice) and then with Normal saline. *Pichu* of *Jatyadi Taila* was kept there, which was followed by daily dressing with *Jatyadi Taila* on OPD basis.

Oral medications:

1. Tablet *Gandhaka Rasayana* 2-0-2 after meals with Lukewarm water for 1 month
2. Tablet *Triphala Guggulu* 2-0-2 After meals with Lukewarm water for 1 month

With monitoring all vitals, general conditions, signs and symptoms and possible complications throughout the treatment. No specific pathyapathya was advised.



Figure-1: Before *Ksharakarma*



Figure-2: During *Ksharakarma*



Figure-3: After *Ksharakarma*

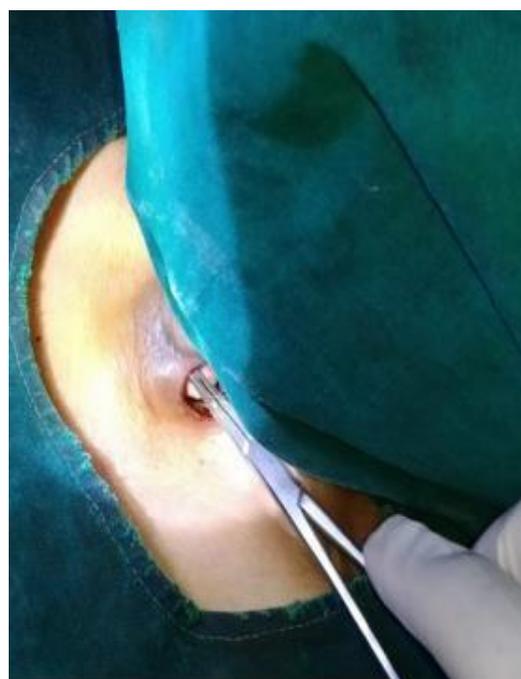


Figure-4: Insertion of *JatyadiTailaPichu*



Figure-5: Post *Ksharakarma* Day10



Figure-6: Post *Ksharakarma* Day15



Figure-7: Post *Ksharakarma* Day20



Figure-8: Post *Ksharakarma* Day25



Figure-9:Post *KsharaKarma* Day30



Figure-10:Post *Ksharakarma* Day60

RESULT:

Following the *Ksharakarma* therapy, the patient exhibited gradual and steady improvement in clinical symptoms. Over the course of 30 days, all previously noted complaints—including pain, erythema, swelling, tenderness, discharge, and difficulty in oral feeding—were completely resolved. The treated site demonstrated healthy granulation tissue formation, signifying progressive wound healing and epithelial regeneration. The pharyngocutaneous fistula, which had persisted despite prior conservative management, was found to be completely healed with no evidence of recurrence.

Throughout the treatment period, the patient was monitored closely for any adverse reactions or post-procedural complications, none of which were observed. Post-treatment evaluation showed

stable general condition, normal vital parameters, and satisfactory nutritional intake. The patient reported significant improvement in comfort, oral intake, and quality of life. Follow-up visits at regular intervals revealed sustained wound healing, absence of infection, and no postoperative complications.

DISCUSSION:

The mainstay of conservative management Pharyngocutaneous Fistula is wound care with frequent wound inspections and application of medicine. The goal of conservative management of fistula is to promote healing by secondary intention. Thus, a holistic approach must be commenced prior to any attempt at addressing the fistula itself. Necrotic tissues should be carefully debrided, and any associated infections must be promptly

treated. Early initiation of enteral feeding is essential to maintain nutritional support and promote healing. Hemodynamic stability should be optimized, and any comorbid conditions must be appropriately managed to enhance recovery. Special attention should also be given to maintaining the integrity of the perifistular skin, as macerated or infected skin can predispose to ulceration, which may subsequently lead to enlargement of the fistulous tract.

Conventional wound dressing methods, such as gauze soaked in saline, water, chlorhexidine, or Dakin's solution, are often inadequate in fistulous conditions due to the continuous discharge of saliva and exudate, which compromises dressing effectiveness and delays healing^[3]. In contrast, holistic treatment approaches—such as *Kshara karma* and other Ayurvedic wound management techniques—offer a more comprehensive solution by promoting effective *Vrana shodhana* (wound cleansing) and *Vrana ropana* (tissue healing). These methods not only facilitate local healing by maintaining the wound's integrity and reducing infection but also address the underlying systemic imbalance, thereby supporting faster recovery and minimizing recurrence.

Kshara karma procedure interpreted as Potential Cauterization therapy is a para-surgical procedure which is termed as superior most by Acharya Sushruta in Ayurveda. “*Tatra Ksharanat Kshanadwarn Ksharah*”, meaning: *Kshara* possess inherent property to destroy. The pharmaceutical and medicinal utility of the Biosalts have interesting and appreciable aspect from applied point of view as the *Kshara* may liquefy the phlegm and fat and thus clear the body channels, useful in

wound bed preparation and skin diseases. *Kshara* contains sodium carbonate, potassium carbonate, calcium oxide, magnesium oxide, silica making it alkaline in nature.^[12]

Kshara, being alkaline in nature, induces fat saponification and forms alkaline proteinates, leading to liquefactive necrosis of morbid tissue. Its hygroscopic property further promotes extraction of water from cells, resulting in cellular death and targeted tissue destruction. The combined caustic action of *Kshara* along with synergistic herbal components facilitates the removal of unhealthy tissue while simultaneously promoting wound healing and granulation.

Most of the ingredients used in *JatyadiTaila* are *Shothabara*, *Vedanasthapana* and *Ropaka*. The ingredients like *Neem*, *Haridra*, *Darubaridra*, *Abhaya*, *Lodhra* have antimicrobial activity. *Manjistha*, *Sariva*, *Karanja* ingredients are having *Vranashodhana* (wound cleansing) property. *Naktahva* and *Abhaya* have antioxidant and wound healing properties. *Katuka* improves re-epithelialization, neo-vascularization and migration of endothelial cells, dermal myofibroblasts and fibroblasts into the wound bed. *Jati*, *Patola* and *Sikta* have *Vranaropana* (Wound healing) action, *Kushta* has anti-inflammatory action. *Madhuka* has soothing and healing action on skin lesions topically. *Nymphaea stellata* has astringent and antiseptic properties. *Tuttha* i.e. coppersulphate induces vascular endothelial growth factor (VEGF) expression in the wound, stimulating angiogenesis and further enhancing tissue regeneration.

Triphala Guggulu as mentioned by *Acharya* Yogaratnakara in *Vranashopha*, reduces

Kleda, Paaka, Putigandha, Shotha along with remarkable reduction in pain [4]. *Triphala* reduces expression of inflammatory mediator such as IL-17, COX-2, and RANKL through inhibition of NF- κ B activation thus working as anti-inflammatory agent⁵. *Triphala* possesses strong antibacterial effects against *Staphylococcus epidermidis* and *S. aureus* and moderate effects against *Proteus vulgaris*, *Pseudomonas aeruginosa*, and *Salmonella typhi*⁶. *Gandhaka Rasayana* contains *Shuddha Gandhaka*, for *Bhavana – Godugdha, Chaturjata, Guduchi, Pathya, Dhaatri, Aksha, Bhringaraja, Aadraaka*⁷. *Gandhaka Rasayana* possesses antibacterial properties for organisms like *Staphylococcus, Streptococcus, E. coli, Pseudomonas etc.* *Gandhaka* is mentioned as *Krimighna* in ancient *Ayurvedic* texts [9]. Sulphur has been associated as an important constituent in Sulphonamides, which are used as antimicrobial agents [10]. These groups of drugs have been proved to act by inhibiting Folic acid metabolism in the susceptible bacteria and preventing their growth.^[11-12]

Hence, the combination of these treatment modalities provides a broader antimicrobial effect while simultaneously modulating ongoing inflammatory pathways and alleviating pain. This integrated approach explains the complete resolution of signs and symptoms observed in the patient. Comparison of clinical findings before and after treatment demonstrates complete wound healing, with resolution of swelling and pain, reduced erythema and tenderness, cessation of discharge, and restoration of normal oral feeding.

CONCLUSION:

Ksharakarma combined with *Jatyadi Taila* dressing and oral *Triphala Guggulu* and *Gandhaka Rasayana* appears effective in managing pharyngocutaneous fistula. This integrative approach promotes wound healing, provides antimicrobial, anti-inflammatory, and analgesic effects, and is cost-effective, well-tolerated, and associated with minimal hospital stay. It may serve as an alternative in recurrent cases after surgery, and further studies on larger patient populations are warranted to confirm its efficacy in other types of fistulae.

Limitation of study:

This was a single case study so needs this treatment in larger sample size to generalize the treatment.

Informed written consent of patients:

The patient was fully informed about the treatment, and written informed consent was voluntarily obtained prior to the initiation of the study.

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