



## Significance of *Karanool* (Alkaline Thread) and *Suttigai* (Cauterization) in Anorectal Diseases

B. Manikandan<sup>1\*</sup>, S. Elansekaran<sup>2</sup> and K.S. Uma<sup>3</sup>

<sup>1</sup>Lecturer, Department of Kuzhanthai Maruthuvam,  
Maria Siddha Medical College, Thiruvattaru (Tamil Nadu), India.

<sup>2</sup>Associate Professor, National Institute of Siddha, Tambaram, Chennai (Tamil Nadu), India.

<sup>3</sup>Associate Professor, Department of Siddha, The TNMGRMU, Guindy (Tamil Nadu), India.

(Corresponding author: B. Manikandan\*)

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**ABSTRACT:** The Siddha system is an Indian medical system consisting of 32 internal and exterior remedies. Aruvai maruthuvam (surgery) is a remarkable procedure used by siddhars to treat a variety of chronic and acute illnesses. Many tamil literatures like *kambaramayanam* reveals the detailed accuracy and extensive surgical practices which had practiced in ancient periods. *Karanool* (Alkaline thread) and *Suttigai* (Cauterization) are familiar therapies practiced widely for treatment of non-healing ulcer, warts, benign growth, skin tags, fistula, piles and other anorectal diseases. *Suttigai* is one of the external medicines comes under *Asura vaithiyam* as elaborated in Siddha system by Saint *Therayar* and *Yoogi*. Siddha physicians practice these surgical therapies to treat anorectal diseases especially to prevent the remission.

**Keywords:** *Karanool* (Alkaline thread), *Suttigai* (Cauterization), Siddha, *Aruvai maruthuvam* (Surgery), anorectal diseases.

### INTRODUCTION

In *kambaramayanam* it is mentioned that “*Udalidai thondrittu ondrai aruthathan uhiram vangi sudalura suttu veror marunthaal thuyaram theervar*” This means that any abnormal growth of the body can be eliminated and drained by surgical procedures then cauterized and treated with appropriate medicine. The surgical procedures in siddha system are classified into 25 types which includes 3 essential categories are *Aruvai* (surgical procedures), *Akkini* (Fire blaze), *Kaara murai* (Cauterization). The various surgical instruments mentioned in siddha literature for pre and post-surgical procedures includes *kathi* (knife), *kathirikol* (scissors), *truki* (forceps and hemostat), *thondi* (trophine), *kuruthi vaangal* (curettes), *pudunki* (speculae), *kulaikal* (tubes), *salakai* (probes) etc.

### COMMON ANORECTAL DISEASES AND THEIR COMPLICATIONS

Anorectal diseases refers to ailments of the anus and rectum. It includes benign to severe condition such as malignancy. The common anorectal disease in which these traditional therapies can be applied include haemorrhoids, anal fissures, pilonidal sinus, fistulo in ano etc. (Fox-Orenstein *et al.*, 2014).

**A. Haemorrhoids.** Haemorrhoids start when the venous drainage of the anus deteriorates, resulting in dilatation of the venous plexus & the connective tissue, which leads to anal mucosa outgrowth from the rectal wall. The placement of haemorrhoids relative to the

dentate line is used to distinguish them. In adults, the anus is about 4cm long, with a dentate line at the middle. Internal haemorrhoids form above the line of dentate tissue and are painless due to their visceral innervation. External haemorrhoids are located below the dentate line and may be uncomfortable and inflamed. Mixed haemorrhoids are classified as having both exterior and interior kinds. Haemorrhoids are also classed in four degrees (Anavarathan, 2017; Alexander Engel, 2017; B.R. Dinesh *et al.*, 2018; Jeyavenkatesh *et al.*, 2017).

#### Complication:

Most common complication of haemorrhoids includes,

1. Heavy bleeding
2. Chronic unremitting prolapse of mucosal tissue
3. Strangulation
4. Ulceration
5. Thrombosis

#### B. Anal fissure

Anal fissures are defined as a longitudinal tear or damage to skin of anal canal. It is classified into 2 types based on causative factor (Anavarathan, 2017).

- I. Primary fissure related to trauma such as hard stool, prolonged diarrhoea, repetitive injury or vaginal delivery.
- II. Secondary fissure are found in patient with previous anal surgery procedure, infection, inflammatory bowel disease or malignancy. Lateral or multiple fissures occurs rarely in 1% of patients.

#### Complication:

Complication of anal fissure include,

- Pain and discomfort

- Clotting
- Difficulty with bowel movements
- Uncontrolled bowel movement

**C. Pilonidal sinus.** Pilonidal refers to a nest of hair. A Pilonidal Sinus is a tiny cyst or abscess that forms in the gap at the top of one's buttock - a tube-like, random-shaped formation with a tuft of hairs. It typically includes hair, dirt, & debris. It may cause extreme discomfort and often becomes infected. If it gets infected, it may leak pus, blood, and emit a horrible stench.

Infection symptoms include pain

- when seated or standing
- recurrent swelling as well as abscess on your lower back
- inflammation of the cyst,
- swollen
- sore skin
- pus or blood removing from the abscess
- foul odour, hair sticking from the lesion
- formation of multiple sinus
- tracts or holes in the skin, as well as external signs.

Complications :

- Abscess production.
- Recurrence of pilonidal cyst.
- Systemic infection, which develops through the body.

**D. Fistula-in-ano.** Fistula-in-ano termed *Powthiram* in Siddha literature is a chronic infection of the anal region with symptoms of blood and pus discharge, pain, soiling of clothes, discomfort etc. through an opening around anus. It has an agonizingly recurrent nature as the infection is difficult to be eliminated.

After an anorectal abscess, fistula-in-ano often develops. An obstruction of the anal gland can lead to infection and the creation of an abscess, which is known as an anorectal abscess. The fistula might pass through the sphincters because the infection is situated close to the sphincter complex. Following anorectal abscess incision and drainage, a fistula will form in one-third of the patients. When an anorectal abscess is discovered, thirty to seventy percent of the patients will probably have a fistula on examination (Jose *et al.*, 2017).

Complications :

Infection.

Bowel incontinence.

Recurrence of the fistula.

#### **SIGNIFICANCE OF SUTTIGAI (CAUTERIZATION) AND KARANOOL (ALKALINE THREAD) IN ANORECTAL DISEASES**

**Suttigai (Cauterization).** Cauterization is one of the mode therapy which includes application of corrosive drug or hot metal over the affected site. This helps to destroy some tissues which are undesired growth which helps in treating the disease and minimizing the potential medical harmful possibilities such as infection. Five kinds of suttigai exist. Uloga suttigai: Metal-based cautery Maram suttigai—suttigai that includes plant material Man suttigai: Suttigai using an earthenware jar or brick, Sun bathing is known as

Kaanthi suttigai and blowing hot air is known as Kaal suttigai. It mostly treats illnesses connected to Kabha. Preparing the patient for surgery usually involves an oil bath and purging throughout the first two days. Afterwards, internal medicine will be suggested based on the situation. The patient must eat breakfast and settle into a cozy couch for this treatment. The tool used in this process is heated to a red-hot temperature and then allowed to cool to a comfortable temperature.

The heated item is applied to the afflicted region for two to four seconds after it reaches a comfortable temperature before being removed. To stop the burning feeling and boils, a medicinal externally used will be applied to the affected region. Depending on the state and gravity of the illness, this process will be repeated (Arzu Ilce, 2014).

**Pharmacodynamics of Suttigai.** According to physics, there are three ways that heat may be transferred from one location to another.

1. Conduction, 2. Conversion, 3. Radiation.

It is one of the most successful external therapies since it primarily employs heat to treat a variety of diseases in different ways (intensity and duration). According to this hypothesis, the suttigai method could be Report Phrase applied at different temperatures to help treat various illnesses using the radiation & conduction methods. The main objective is to apply heat; however, the type of sickness being treated will determine how much and how long the heat is applied. The pharmaceutical impact occurs by constriction of the epidermal blood vessels, and the administration of heat raises the endorphins level to alleviate pain. This process happens in Kaal Suttigai and Kaanthi Suttigai when the human body's surface receives little heat from the sun.

**Contraindication:** Haemophilia, purpura, Thrombocytopenia, Liver failure, Etc.,

**Aim and significance of cauterization:**

- To minimize infection
- To stop bleeding
- To treat and remove the deep seated infection
- To eliminate the gangrenous or highly infected septic muscle or part of body (Caren *et al.*, 2015)

**Karanool therapy (Alkaline thread):** A special parasurgical procedure called karanool sigichai is used for treating fistula-in-ano. It is a technique for fistula cauterizing using chemicals. The tract is sliced using surgical thread coated with salts such as *Achyranthus* and *Dalmia extensa*. The main benefits of this operation include cost effectiveness, preservation of continence function, and prevention of the condition's return (Bordeianou *et al.*, 2013; Sultana and Ansari 2016; Vidhya *et al.* 2018). *Karanool* is a chemical cauterization which helps to cure anorectal diseases in Siddha. Saint *agathiyar*, *therayar* and *bogar* have described the method of preparation of *karam* and *karaseelai* in classical siddha texts. *Karanool* therapy is a minimal invasive technique used for treating piles, pilinoid fistula, warts, fistula skin tags etc. It helps in removal of non-viable tissues in body and promotes healing.

**Preparation of alkaline thread.** *Karanool* is prepared by using ingredients such as

- (i) *Nayuruvi uppu* (Achyran thus aspera-ash water extract)
- (ii) *Pirandai uppu* (Cissus quadrangularis-ash water extract)
- (iii) *Padikaram* (Aluminium potassium sulphate powder)
- (iv) *Kavikkal* (aluminium silicate powder)
- (v) *Venkaram* (Borax powder)
- (vi) *Amman patcharisi pal* (Euphorbia hirta latex)
- (vii) *Pappali pal* (Carrica papaya latex)
- (viii) *Tirugukkali pal* (Euphorbia nerifolia latex)
- (ix) *Manjal* (curcuma longa underground stem powder)

Except *manjal* all the ingredients are smeared on barbour's thread and allowed to dry for 11 days. Then the coatings of *manjal* is smeared and dried for another 3 days in a *karanool* chamber (Bordeianou *et al.*, 2013).

**Treatment procedure.** Early on the day of the procedure, an enema will be administered. A second incision will be made across the skin up to the probe's tip once the tract has been tracked to its blind end using a probe inserted through the hole while under local anesthetic. Using a malleable probe, caustic threading can be entered, and thread will come out from a different aperture. Make three strong knots to secure the thread. Following the surgical operation, the patient will be observed for a maximum of two hours. The patient will be required to switch the thread once every seven days over the course of therapy. Twice a day, the wound is going to be cleansed and treated. In three months, the patient would have fully healed (Bordeianou *et al.*, 2013).

#### PHARMACODYNAMICS OF KARANOOL THERAPY IN ANORECTAL DISEASES

This is a special Siddha method that uses mechanical strangling, chemical cauterization, & tract draining. It keeps pus from building up in the system by making sure that the lysed tissues are constantly being drained. In the repaired tract, it causes fibrosis to develop with little to no inflammation (Bordeianou *et al.*, 2013).

In case of Hemorrhoids, through this technique, ligation is placed right at the root of hemorrhoidal tissue and the whole hemorrhoid is ligated with *Karanool*. Blood supply to the existing hemorrhoid is cut off and hemorrhoid will shed off after some days. *Karanool* that is placed at the root of hemorrhoid will help to prevent the recurrence of the disease.

*Karanool* application on the external haemorrhoid, anal fistula and other anorectal diseases is a method of chemical cauterization of the patient fistulous tract. It is safe, very good hemostatic and possesses no recurrence. The efficacy of this treatment depends upon the ingredients in the *Karam*. Essentially the *Karam* is

prepared from a mixture of ash extracts of some plants, salts, plant parts and latex, so it possesses antimicrobial activity and the pH is high. However it must be noted that the external haemorrhoid should be firm and the fistula should be low anal and the patient regularly followed (Vidhya *et al.*, 2018).

#### CONCLUSIONS

Even while contemporary technology offers a variety of surgical methods to cure anorectal illnesses, there is no guarantee that the condition won't reoccur. When treating anorectal illnesses, the *Karanool* & cauterizing procedures are efficient, effective, and economical. Compared to other surgical procedures, they appear to be a less painful and more efficient choice for avoiding its recurrence.

#### FUTURE SCOPE

Hence it is essential to perform research in large scale to reveal the actual success of this traditional method.

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