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Integrated management of Tubercular Fistula-in-ano: A case study.

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ABSTRACT

Introduction: Tubercular fistula-in-ano is one of the extrapulmonary manifestations of Tuberculosis. Around 10-12% cases of Fistula-in-ano have been found to be tubercular in origin. This usually occurs along with pulmonary tuberculosis but can also occur in the absence of pulmonary infection. General management of fistula-in-ano through Ayurveda can be performed along with anti-tubercular chemotherapy in such cases.

Case Report: A 24 year old male with Tubercular fistula-in-ano has been treated with Partial fistulectomy with *Ksharasutra* application and Anti-tubercular drugs per orally along with other oral medications and local treatment of the wound. Patient got relief from all his previous signs and symptoms along with complete healing of the fistulous wound without any adverse effects. It took 1 year and 2 months for the same without recurrence till the date.

Discussion: Fistula-in-ano has been well controlled with the *Ksharasutra* application which acts as a cutting as well as draining seton, where unhealthy granulation is destroyed by liquefaction necrosis of Kshara followed by wound healing. Tubercular infection is well controlled by the anti-tubercular drugs.

Keywords: Ayurveda; Fistula-in-ano; *Ksharasutra*; Tuberculosis; Seton.

INTRODUCTION

Extrapulmonary tuberculosis accounts for 5% of all tuberculosis,[1] which comprises 20% in case of India[2]. Perianal abscess and Fistula-in-ano may also develop due to tubercular infection. Around 10-12% cases of Fistula-in-ano have been found to be tubercular in origin[3]. There is no specific symptomatology for tubercular fistula-in-ano but it should be highly suspicious when fistula-in-ano has multiple external openings, thin watery discharge, recurrences, inguinal lymphadenopathy, and longer time for healing and if there is concomitant pulmonary Tuberculosis.[4] Tubercular fistula-in-ano is mostly reported in men of developing countries mostly associated with pulmonary tuberculosis but can occur in the absence of pulmonary infection.[3] Lesions are usually red papule which can progress to ulcerating plaque which is known as tuberculous chancre which is painful, indolent and often regional lymphadenopathy is present. Constitutional symptoms like low grade fever especially in the evening hours, anorexia and weight loss with features of anemia are the other features which further strengthen the doubt of a tubercular pathology, however all these symptoms may not be present in all cases.[5,6] But sometimes it may present as progressive anal stenosis.[7]

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The postulated mechanisms by which tubercle bacilli reach the perianal region are, hematogenous spread from the primary lung focus in childhood with later reactivation; ingestion of bacilli in sputum from active pulmonary focus; direct spread from the adjacent organs; and through lymph channels from infected nodes.[8]

Nearly all fistulas are complex, and secondary tracks or additional complicating features are commonly found even at first presentation.[9] Tuberculosis can be a part of the complicating infection of HIV-positive patients.[10] The incidence and severity of ano-perianal tuberculosis are increasing with increasing incidences of HIV infection.[11]

Bhagandara in Ayurveda can be correlated to fistula-in-ano. *Bhagandara* means destruction of area between genitalia and anus which occurs after rupture of abscess in peri-anal region.[12]*Ksharasutra* (Medicated thread) application is one of the treatment modality for the management of *Bhagandara.*[13]

Ideal chemotherapeutic regimen and duration of treatment for tubercular fistula-in-ano have not yet fully resolved. It is advisable to start with 4-5 drugs in intensive phase and at least 3 drugs in continuation phase with careful assessment for 12 months to 18 months and should be followed up till next 12 months. Regimen usually includes Rifampicin, Isoniazid, Pyrazinamide, Ethambutol with one injectable aminoglycoside and one fluoroquinolone as per sensitivity for a period of 12-18 months[7].

CASE REPORT

The health seeker was a 24 year unmarried Hindu male from Bidar, Karnataka who had come with chief complaints of pain in the perianal region from 4 months along with pus discharge. The pain was gradual in onset, throbbing type, non-radiating type, aggravated by strenuous work and prolonged sitting. He also complained of increased temperature at night time only with loss of weight of about 6 kg within 1 year. There was no history of cough, chest pain, and loss of appetite. He didn't have any past medical or surgical history. His bowel habit was once a day and didn't have any addiction history.

On physical examination his general condition was good and didn't have pallor, icterus, lymphadenopathy (Inguinal lymph nodes were not palpable), clubbing etc. His vitals were normal except for night temperature which was 99.4^0F. Systemic examination revealed no abnormality.

On per rectal examination, On inspection there was pus discharge from the external opening of fistula-in-ano at 5'o clock position at a distance around 4cm from the anal verge. On palpation there was induration from external opening till the anal verge, with tenderness, pus was coming out while pressing and mild elevated temperature was present. On digital rectal examination internal opening was felt on 6o'clock position and tonicity of sphincters was normal. On proctoscopic examination: Internal opening was observed at 6o'clock position. On probing a radial tract extending from 5o'clock position to the 6 o'clock position as internal opening with length of around 4.5 cm was found with pus coming out from the track on probing. (Figure 1) On routine preoperative investigations ESR was raised (64 mm/1st hour), Hb was 11gm%. Chest X-ray PA view was normal.MRI Fistulogram report suggests transsphincteric fistula. The USG abdomen and pelvis finding was normal. The sputum culture report shows negative findings.

Depending upon clinical features and investigations diagnosis was made as Transsphincteric Fistula-in-ano (Grade III).

Patient was taken for surgery: Partial Fistulectomy with primary threading followed by replacement of primary threading by *Ksharasutra* after 3rd post-operative day and then changing the *Ksharasutra* once a week till fistulous tract heals, daily enema was given with *Yashthimadhu Taila* 10ml, post-operatively antibiotics and analgesics were given for 7 days along with Ayurvedic laxatives and sitz bath with *Triphala Kashaya* two times a day. The excised fistulous tract was sent for histopathological examination and report suggested as a Tubercular fistula-in-ano.

Then definitive treatment was given as: Tablet AKT 4 kit 3-0-0 before food (Rifampicin 150mg + Isoniazid 75 mg + Pyrazinamide 400 mg + Ethambutol 275mg) for 2 months followed by course of Rifampicin + Isoniazid for 12 months. Daily wound dressing with Streptomycin powder and *Mahanarayana Taila.*

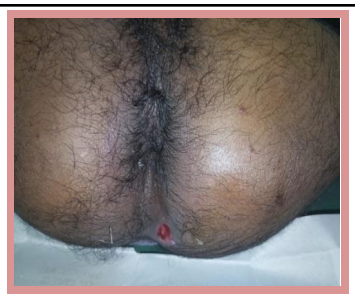

Figure 1: Pre-operative condition of perianal

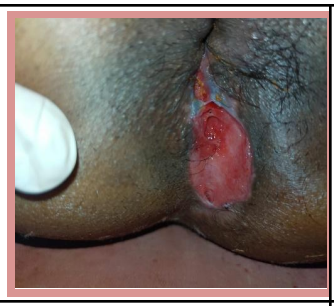

Figure 2: Cut through of fistulous tract after 2 months

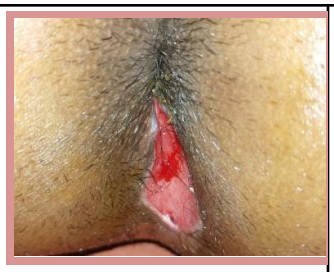

Figure 3: Healthy wound after 3 months

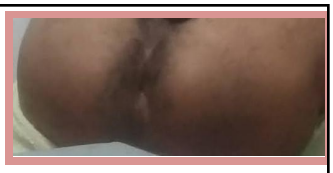

Figure 4: Completely healed tract after 14 months.

Observations:

It has been observed that the fistulous tract got cut through after two months. (Figure 2) There was a wound of about 5x3x0.5 cm with healthy granulation tissue after the fistulous tract got cut through which had undermined edges. Wound was observed after three (3) months.(Figure 3) It took twelve (12) months after that for complete healing of the wound.

Result:

The fistulous tract cut along with the wound got healed in 14 months. (Figure 4) Patient didn't have any complications related to disease and treatment executed. There is no recurrence till now. Treatment was affordable, tolerable to the patient. There was a normal bowel habit, no fever was noted and he had weight gain of 4 KG after 14 months. Patient was stable after the treatment and didn't have signs and symptoms and led a good qualitative life ahead.

DISCUSSION

Managing tubercular fistula-in-ano is a challenging entity as it consists of management of the fistula-in-ano along with taking care of infection of *Mycobacterium tuberculosis*. In this integrated modality of treatment *Fistula-in-ano* has been managed as per Ayurvedic ancient texts considering it as *Bhagandara* and further management includes the management of Tuberculosis according to the recent guidelines for managing extrapulmonary tuberculosis.

Use of *Ksharasutra* in management of *Bhagandara* (Fistula-in-ano) has been described in two incredible texts of Ayurveda viz Charaka Samhita,[13] and Sushruta Samhita.[14] Medicines coated over the thread are *Haridra* (Turmeric powder), *Snuhiksheera* (Latex of *Euphorbia neriifolia)* and *Apamarga Kshara* (Alkaline substance prepared from water soluble ash of plant *Achyranthes aspera)*. [15] It acts as a cutting as well as draining seton, physical presence of it keeps the passage patent and helps in drainage of pus, and it gradually cuts and heals the fistulous tract simultaneously. Alkalinity of *Kshara* causes saponification of fatty tissues which ultimately resulting in liquefaction necrosis of the unhealthy granulation tissues.[3] Because of caustic action it removes unhealthy tissues and promotes healing, destroys infected tissues thus removing the root cause i.e. the infected anal gland. *Haridra* has anti-inflammatory, anti-allergic, anti-septic and wound healing properties.[16]*Snuhiksheera* is proteolytic hence dissolves the fibrous tissue of *Bhagandara* track.[17] Thread helps in the holding the medicines with the help of latex.

As per modern texts: The *Ksharasutra* remains in direct contact of the tract and, therefore, it physically and chemically curettes out the tract and sloughs out the epithelial lining, thereby allowing the fistulous tract to collapse and heal. Several modifications of this procedure are also reported.[18, 19]

In eastern parts of the world the same aim has been achieved by chemical cautery using an Ayurvedic method, known in India as *Ksharasutra*, in which a specially prepared seton thread burns through the enclosed tissue. This out-patient method has been shown to be equivalent to one-stage fistulotomy in patients with intersphincteric and distal trans-sphincteric fistulae.[20]

Pain management and infection control was done with use of analgesics and antibiotics respectively along with daily wound dressing and enema with *Yashthimadhu Taila* to reduce the pain and burning sensation and to promote wound healing. After getting the histopathology report anti-tubercular therapy was initiated.

For proper tubercular wound management Streptomycin powder was used as it controls the tubercular infection

locally so that healing time and wound discharge are reduced significantly[23] along with it *Mahanaraayana Taila* (Medicated oil) was used which has key ingredients *Asparagus racemosus, Sesamum indicum* etc which reduce the pain and have wound healing properties.[24] So dressing with this combination found to be very effective and led to complete healing of the wound.

As there are no clear protocols for the management of the tubercular fistula-in-ano, this integrated approach addresses the fistula tract, fistulous wound, tubercular infection, general condition of the patient, and possible adverse effects. Peri-operative pain and other infections were also well addressed. History, Signs and symptoms, and postoperative histopathological examination were keys to diagnose the condition and subsequent proper integrated management led to complete resolution of the conditions with minimal or no adverse events.

CONCLUSIONS

The integrated approach can be taken as one of the treatment modality for managing such conditions were holistic approach is thought to be beneficial. *Ksharasutra* therapy and anti-tubercular therapy can be the mainstay of management for Tubercular fistula-in-ano along with other adjuvant agents. This integrated modality results in comprehensive healing in less possible time and may be associated with lesser recurrences but needs further studies in a larger group of subjects. This approach is well tolerable, affordable by the patient and results in no adverse effects and is very useful in developing countries where Tuberculosis is still an endemic condition. Good clinical suspicion, prescription of necessary investigations and treatment are solutions for tubercular fistula-in-ano. As per need this treatment can be continued for 12-18 months based on clinical observations. So, this integrated modality can be further evaluated for considering it as a standard treatment of the tubercular fistula-in-ano.

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