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A REVIEW ON POSTERO LATERAL ANAL SPHINCTEROTOMY TECHNIQUE IN THE MANAGEMENT OF CHRONIC FISSURE-IN-ANO

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ABSTRACT

Fissure in ano is a very common and painful condition affecting the ano-rectal region. There are various predisposing and contributing factors that can lead to the manifestation and progression of the disease; which can be categorized under primary and secondary causative factors. The major causative factors that lead to the manifestation of fissure in ano are constipation, spasm of internal anal sphincter, post-operative anal stenosis etc. In Ayurvedic classics the signs and symptoms of fissure in ano has been found in congruence with the symptoms of *Parikartika*. The aim of treatment in *Parikartika* is to reduce the strength of *Samprapti ghatakas*. Since the primary cause of fissure in ano is trauma, it can be considered as a *Vrana*.

Key words: Fissure in ano*, Parikartika*, Sphincterotomy

INTRODUCTION

Fissure in ano is a painful and troubling condition affecting the anal canal. It is a longitudinal split in the anoderm of the distal anal canal which extends from the anal verge proximally towards, but not beyond the dentate line[1] .It occurs more commonly in the midline posteriorly, the least protected part of the anal canal[2]. The prevalence of anal fissure among patients with anorectal complaints is around 18% with a male predominance[3]. Classically, acute fissure arises from the trauma caused by the strained evacuation of hard stools, or less commonly from the repeated passage of stools. Spasm of the internal sphincter of anal canal is also one among the major causes of anal fissure. The secondary cause of

anal fissure can be strenuous childbirth, inflammatory bowel disease, ulcerative colitis, crohn's disease, syphilis, tuberculosis etc[1]. When the hard stools pass through the anal canal in patients having spasm of internal sphincter, an acute tear can occur in the anal canal, which is called acute fissure. It will cause pain on defecation and passage of bright streaks of blood along with the stool, or will be seen in undergarments, tissue paper or in the toilet. Since the wound is located in the anal region, it is more prone for contamination and frequent infection, which can lead to delayed healing of the fissure. If the acute fissure fails to heal, it can gradually develop into a chronic fissure, which is characterised by a hypertrophied anal papilla internally and a sentinel pile externally, between which lies the indurated ulcer. Symptoms like pain, itching and discharge from the ulcer can occur in this condition. Considering the Ayurvedic classics, the features of fissure in ano is compatible with that of *Parikartika*, which is mentioned as a symptom or complication of certain diseases like *Atisara*[6], *Arshas*[7], *Vataja grahani*[8] etc. and certain treatment procedures like *Virechana*[9] and *Bastikarma*[10] that are improperly done. The treatment methods mentioned for the management of *Parikartika* in Ayurvedic classics are mostly conservative methods like *Deepana*, *Pachana, Vatanulomana*, *Picchabasti, Anuvasanabasti*, *Lepa*, *Pichu dharana, Taila poorana* etc. The commonly adopted treatment techniques for the management of fissure-in-ano are anal dilatation, internal anal sphincterotomy, fissurectomy, excision of anal ulcer, anal advancement flap technique etc. Surgical treatment is only indicated in case of chronic fissure-in-ano, or for fissure that are not healed by conservative medical therapy.

AIM

To evaluate the literature regarding internal anal sphincterotomy technique in the management of fissure-in-ano.

OBJECTIVES

- To review available literature regarding sphincterotomy.
- To study the literature regarding internal anal sphincterotomy technique from various sources.
- To study about the indications, efficacy, and possible complications of anal sphincterotomy.
- To understand about the efficacy of posterolateral anal sphincterotomy

compared to posterior anal sphincterotomy.

METHODOLOGY

Various modern literatures are searched to review the method, effectiveness and safety of sphincterotomy techniques like posterior anal sphincterotomy, lateral anal sphincterotomy and posterolateral anal sphincterotomy.

TECHNIQUE- Internal anal sphincterotomy

This is a surgical procedure involving treatment of anal fissure by dividing the superficial muscle fibres of internal anal sphincter. It is advised in patients with anal hypertonia. The internal and external anal sphincters are two muscular structures present in the anal canal that are responsible for anal continence. The internal anal sphincter is the inner muscular layer composed of concentric layers of circular smooth muscles, and is approximately 2.5 to 4 cm long and 2 to 3 cm thick. It is involuntary in its action and is consistently contracted to prevent leakage of fluid, gas or stool. When the defecation cycle is triggered, the internal anal sphincter muscle relaxes allowing expulsion of stool. The external anal sphincter is the outer muscular layer composed of striated muscles and is voluntary in its action. Posterior sphincterotomy involves dividing the transverse muscle fibres of internal anal sphincter in the floor of fissure, making the floor smooth[4]. But this operative method have the disadvantages like, prolonged convalescent period of 7-10 days[4], risk of non-healing fissure and keyhole defect, which is a groove in the anal canal wall developed after posterior midline sphincterotomy. Lateral anal sphincterotomy has been considered as the gold standard for the treatment of anal fissure[5]. It was introduced in 1951 by Dr. Stephen Eisenhammer. This procedure helps in reducing pathologically elevated pressure within the anal canal, and thereby healing the chronic fissure in ano with minimal complications. In this technique the internal sphincter is divided away from the fissure either in the right or left lateral position[4], usually in 3 O' clock position. In case of posterolateral internal sphincterotomy, the muscle fibres are divided in a point midway between the standard lateral position and posterior midline position. That is 5 O' clock position.

This procedure can be done in local or spinal anaesthesia according to the requirement.

1. The patient remains in lithotomy position.
2. Under sterile precautions, the anal canal is examined and identification of fissure bed is done.
3. The floor of the internal sphincter will be seen running transversely in its floor. The procedure can be done in either closed or open method.
4. In open method, a 5-6mm incision is made across the intersphincteric groove at 5 O' clock position, exposing the internal anal sphincter muscle fibres. The internal anal sphincter is elevated and gently separated from the external anal sphincter laterally and subcutaneous tissue medially up to the level of dentate line, using an artery forceps. The muscle fibres of internal anal sphincter is divided up to the level of dentate line using electro cautery or fine surgical scissor. The anoderm is left open to allow healing by secondary intention.
5. In closed method, the intersphincteric groove is palpated at 5 O' clock position. Keeping one finger in the anal canal, insert a scalpel with 11 no. blade, parallel to the internal anal sphincter through the intersphincteric groove. The blade is then rotated and advanced medially towards the internal anal sphincter and dividing it, up to the dentate line.
6. The sentinel pile that is present has to be excised.

In both techniques only the lower one third to half portion of the muscle fibres are divided (>1cm). This enables to lower the resting pressure and thereby reducing anal hypertonia, without hampering the functions of internal anal sphincter.

DISCUSSION

The posterolateral anal sphincterotomy discussed here is an advanced form of lateral anal sphincterotomy technique which is proved to be very effective in the management of fissure-in- ano, and is considered as a gold standard for the treatment of the same. The main principle of this treatment is to reduce anal hypertonia and thereby reducing the pathologically elevated pressure and which in turn relieves the difficulties due to sphincteric spasm. It improves blood flow to the anal region and promotes faster healing of the chronic anal fissure with minimal complications. Apart from the standard lateral internal sphincterotomy

technique which is done usually at 3 O' clock position, posterolateral internal sphincterotomy done at 5 O' clock position would give comparatively better results in terms of complications like less incidence of fecal incontinence, reduced convalescent period and recurrence. Most importantly it can avoid development of key hole deformity. Other sphincterotomy technique like posterior anal sphincterotomy are usually associated with complications like keyhole defect and fecal incontinence. Yet lateral internal sphincterotomy operation is inferior in the sense that, excision of ulcer and biopsy cannot be performed in one go[4]. Hence lateral internal or posterolateral internal sphincterotomy is appropriate for early cases. But minor complications like bleeding, infection etc. can develop.

RESULT AND CONCLUSION

Posterolateral anal sphincterotomy is an advanced form of lateral sphincterotomy technique, which is truly helpful in the management of chronic fissure in ano. Since the internal sphincter is divided away from the fissure, the healing rate is more and convalescent period is less in this technique. Posterolateral sphincterotomy is devoid of keyhole defect complication, and the chance of fecal incontinence and recurrence rate is much less when compared to posterior anal sphincterotomy. Hence difficulties due anal hypertonia or sphincteric spasm can be relieved without hampering normal sphincteric function, and faster healing of the fissure in ano can be achieved.

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