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A Review Article on Fistula (Fissure in Ano)

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Abstract-

A tract known as a fistula-in-ano joins the skin of the perianal canal to the anal canal. A fistula in ano is a deep cut that joins the skin surrounding the anus to the anal canal or rectum. Most frequently, an anorectal infection is followed by a fistula in ano. Closing the internal fistula tract opening, draining necrotic or infected tissue, and eliminating the fistulous tract while maintaining sphincter function are the three major tenets of anal fistula treatment. Most of the time, surgical intervention is needed. The quality of life for a patient is improved by proper care. This exercise goes over the diagnosis and management of fistula-in-ano and emphasizes the need of surgery in the care of these patients. It will look at the interprofessional team's function. The goals were to compare several features of treating fistula in ano utilizing different modalities such as fistulotomy, fistulectomy, setons, and lift operation, as well as per operating complications, post-surgical problems, and mean hospital stay.

Keywords- Ayurveda, Surgery, Bhagandar, Fistula.

Introduction:

Anal fissures, sometimes called fissures in ano, are tiny tears or ulcers in the tissue lining the anal canal. All ages are affected by this widespread ailment, although young adults and middle-aged persons are most likely to experience it. It can result in excruciating discomfort before, during, and after bowel movements, frequently with bleeding. The pathogenesis, clinical characteristics, diagnosis, and treatment of anal fissures are summarized in this paper. The anal canal and the perianal skin are connected by this epithelial-lined tube. Although there are numerous potential origins, anorectal abscesses are typically the source of anal fistulas.[1] The fistula's classification is established in connection with the anal sphincters. Despite being innocuous, the illness can make the patient extremely uncomfortable and ashamed. The goals of treatment are to keep the infection

under control and preserve fecal continence. There are numerous therapy options available, and new treatments are continuously being researched and proposed. The basic concepts of diagnosis and treatment for fistula-in-ano will be reviewed in this article. The superficial openings, which may be numerous, are located around the perianal skin, whereas the principal opening is located deep within the rectum or anal canal. Fistula in ano, a common surgical condition that typically follows anorectal infection, presents a difficult decision for a surgeon in terms of choosing the best course of action for the patient and satisfying their needs.[2] The fistula's classification is established in connection with the anal sphincters. Despite being innocuous, the illness can make the patient extremely uncomfortable and ashamed. The goals of treatment are to keep the infection under control and preserve fecal continence. There are numerous therapy options available, and new treatments are continuously being researched and proposed. The basic concepts of diagnosis and treatment for fistula-in-ano will be reviewed in this article. The superficial openings, which may be numerous, are located around the perianal skin, whereas the principal opening is located deep within the rectum or anal canal. Fistula in ano, a common surgical condition that typically follows anorectal infection, presents a difficult decision for a surgeon in terms of choosing the best course of action for the patient and satisfying their needs.[3]

Etiology-

An anorectal abscess frequently results in fistula-in-ano. An occlusion of the anal gland leads to infection and the development of an abscess, which makes an anorectal abscess. The sphincters can be crossed by the fistula since the infection is close to the sphincter complex. A fistula develops after an anorectal abscess is cut open and drained in one-third of patients. An examination will reveal a fistula in 30 to 70% of patients who have been diagnosed with an anorectal abscess. Comprehending the progression of an abscess into a fistula requires a deep grasp of anorectal anatomy. Achieving proper surgical care requires accurate fistula localization in relation to the sphincters. [4] The rectum itself, the anal glands, the anal sphincters, and the levator ani, which is made up of the puborectalis, pubococcygeus, and iliococcygeus, are the key anatomical features in the anorectal region. Stratified squamous epithelium makes up the anal canal lining distally, changing to squamocolumnar epithelium proximally beyond the dentate line. The columns of Morgagni, which are folds of columnar glandular epithelium, are located proximal to the dentate line. [5] In endemic places or in cases of non-healing recurring fistulas, anal fistulas should be suspected as a possible manifestation of anal tuberculosis. When testing for tuberculosis, the polymerase chain reaction of pus samples is more sensitive than histology.[6]

Epidemiology-

With an estimated 10% frequency in the general population, anal fissures are a common source of anorectal pain. Both males and women are equally likely to have the illness. Younger adults have a slightly higher incidence, nevertheless. Acute and chronic anal fissures are the two main classifications used for them. While chronic fissures last longer than 8 weeks and may result in issues like skin tags or hypertrophied anal papillae, acute fissures heal in 6 to 8 weeks.[7]

Histopathology

When an unusual etiology is suspected, such as an infectious or malignant etiology, histologic investigation of the fistula tissue should be sent. Tissue removed after anal fistula surgery is typically not sent for pathologic examination since, absent an occult process, it does not add to the therapy. In a review of 84 individuals who had undergone anal fistula treatment, the yield of histological analysis in the standard assessment of tissue from the surgery was found to be low positive for this tissue, with the exception of situations in which a recurrent fistula or suspected cases of HIV, TB, or Crohn's disease were present. Most cases of fistula pathology only show evidence of a fistula tract. Noncaseating granulomas can be observed in Crohn's disease instances, and an acid-fast bacilli test can help with diagnosis if tuberculosis is present.[8]

Classification of Anorectal Fistulas

1. Transphincteric fistula
2. A high intersphincteric fistula
3. A suprasphincteric fistula
4. Extrasphincteric fistula

Transsphincteric Fistulas:

The word trans means "on the other side of" in Latin. A trans-sphincteric fistula, then, is one that involves both sphincters by crossing to the other side of the external sphincter and then emerging in the perianal area. This makes transsphincteric fistulas difficult to control and frequently necessitate more involved or phased care. Nevertheless, while maintaining the patient's continence, the use of a seton to progressively "lower" the tract and lessen its involvement with the external sphincter may permit migration of the tract and a fistulotomy in the future. The probability of postoperative incontinence is determined by the degree of external sphincter involvement, since a partial sphincterotomy is typically tolerable. Even yet, incontinence will follow a full division if the fistula involves much of the sphincter.[9]

Intersphincteric Fistulas:

An intersphincteric fistula is the most common type of abscess because it develops in the space between these sphincters, which is inevitable. That is the one with a tract traveling to the outside of the anus after it crosses the internal sphincter. Since the procedure does not alter the external sphincter, a fistulotomy effectively treats these conditions, or the opening of the fistulous tract, and seldom results in incontinence. 50–80% of all cryptoglandular fistulas are intersphincteric fistulas, which are the most prevalent kind of fistula.[10]

Suprasphincteric Fistulas:

These fistula tracts pass through the puborectal muscle and pass superior to the external sphincter before rerouting caudally to their external orifice. As a result, they avoid the external sphincter but pass the puborectal muscle and internal sphincter. These individuals usually have perirectal abscesses, which may not be apparent upon inspection but will manifest as pain during the digital rectal exam. Once more, in these situations, the use of a seton may be taken into consideration prior to fistulotomy because to their high tract. Similar to a fistulotomy, a fistulectomy entails the complete fistula tract being removed, either surgically or by cautery. Anal fistulas were traditionally treated with radical fistulectomy; however, fistulotomy was generally considered better because it preserved more sphincter function, was a less traumatic technique, and healed more quickly. But more recently, it appears that the results of fistulectomy and fistulotomy are comparable, with professionals handling the bulk of fistula surgeries. Six randomized controlled trials (RCTs) comparing fistulectomy against fistulotomy for low fistulas were recently meta-analyzed and published in 2016. The results showed that there was no significant difference in postoperative incontinence in four RCTs and no significant difference in recurrence in five RCTs. [11]

Extrasphincteric Fistulas:

These fistulas are frequently the result of a treatment and frequently originate in the more proximal rectum as opposed to the anus. The tract travels superiorly to enter the anal canal above the dentate line, with their external aperture located in the perianal area. Classification of St. James University Hospital (SJUH): An imaging-based approach Five categories comprise the SJUH, an imaging-based grading system based on the anatomic location of fistulas. Because MRI provides excellent images of the sphincter complex and fat in the perirectal and supra-levator spaces, it is more sensitive than CT at delineating soft tissue and has been shown to be a reliable method of characterizing the anatomy of anorectal fistulas before surgery. This allows for the preoperative identification of involvement of these regions. Furthermore, MR will make it easier to identify the internal opening of anal fistulas than other imaging modalities because it has numerous potential axial planes.[12]

Pathophysiology:

Although the precise cause of anal fissures is still unknown, a few factors seem to have a role in their development. Among them are: Anal canal trauma: The most frequent cause is straining or tearing the mucosal lining of the anus while passing large or firm feces. While diarrhea can also irritate the anal lining, constipation is the main cause of damage. Elevated Internal Anal Sphincter Tone: The most prevalent location for anal fissures, the posterior midline of the anal canal, experiences inadequate blood flow due to a high resting pressure in the internal anal sphincter in many patients with chronic anal fissures. Healing is hampered by this

ischemia. Inflammation and Infection: A cycle of inflammation and infection may be present in chronic fissures, which exacerbates the healing process.[13]

Clinical Features:[14]

Patients with anal fissures typically present with:

Pain: Defecation pain, both during and after, is the most common symptom. There could be hours or minutes of discomfort, which would be quite upsetting.

Bleeding: Following defecation, bright crimson blood may show up in the toilet bowl or on toilet paper.

Itching or Irritation: Perianal discomfort and itching are possible in patients.

Visible Tear: Examining the area may reveal a longitudinal rip, usually in the posterior midline. Features such as sentinel piles or hypertrophied anal papillae may be associated with chronic fissures.

Diagnosis:

The patient's medical history and a visual inspection of the anal canal are the main sources of the clinical diagnosis. Patients with acute fissures are typically advised against having an oscopy or a digital rectal examination because of the discomfort. In long-term situations, additional diagnostic testing, like as sigmoidoscopy or colonoscopy, could be required to rule out cancers or other disorders like Crohn's disease.[15]

Management:[16,17]

Whether an anal fissure is acute or chronic determines how it should be treated. Relieving pain, lowering anal sphincter pressure, and fostering healing are the objectives of treatment.

Conservative Management:

Dietary Modifications: Increased fluid intake and a high-fiber diet soften stools, reducing discomfort during bowel movements. Supplements with fiber could also be advised.

Sitz Baths: Anal sphincter relaxation and discomfort reduction are aided by warm water baths.

Topical Treatments: Topical anesthetics (like lidocaine) to alleviate discomfort. Blood flow is improved and sphincter spasm is lessened by topical vasodilators like nitroglycerin or calcium channel blockers like nifedipine and diltiazem.

Stool Softeners: In order to avoid constipation, doctors may prescribe laxatives such as polyethylene glycol.

Medical Therapy:

Injections of botulinum toxin, also known as "Botox," are used to momentarily paralyze the internal anal sphincter, which lessens spasm and permits the fissure to heal. When conservative approaches are ineffective in chronic fissures, this option is very helpful.

Surgical Management:

The most successful treatment for persistent anal fissures is lateral internal sphincterotomy (LIS), which involves splitting part of the internal anal sphincter to lower resting pressure. There is little chance of recurrence and a success rate of over 90%. A minor risk of postoperative incontinence does exist, nevertheless.

Ayurvedic Treatment-

Fistula-in-ano, a common kind of fistula, is treated in Ayurveda with an emphasis on body cleansing, dosha balancing (particularly Pitta and Kapha), and fostering natural healing by specialized treatments, herbal remedies, and dietary adjustments. The major objective is to encourage tissue healing while lowering pain, inflammation, and infection. An outline of Ayurvedic methods for treating fistulas is provided below:

1. Kshar Sutra Therapy

One of the most popular and successful Ayurvedic therapies for fistula is this one. It entails inserting a Kshar Sutra a medicinal thread into the fistulous tract. Herbal alkalis, or kshara, found in the Kshar Sutra progressively sever the fistulous tissue and aid in the tract's recovery. It functions by clearing the tract internally and draining the pus. When treating fistulas, this approach is highly successful and less invasive than traditional operations.

2. Herbal Remedies

Several Ayurvedic herbs are used to manage symptoms, reduce infection, and promote healing:

- **Haritaki (Terminalia chebula)**: Haritaki is reduces strain during defecation by acting as a natural laxative and encouraging bowel movement.
- **Guggulu (Commiphora mukul)**: Well-known for its ability to reduce inflammation and heal wounds. It's common practice to offer guggulu-based formulations like Kaishore Guggulu and Triphaladi Guggulu.
- **Turmeric (Curcuma longa)**: it has strong antimicrobial and anti-inflammatory properties.
- **Neem (Azadirachta indica)**: Antibacterial, antifungal, and helps in cleaning wounds.
- **Triphala**: Bibhitaki, Amalaki, and Haritaki together are three fruits that are utilized to aid in detoxifying and healing.

3. Panchakarma

- **Basti (medicated enema)**: It promotes digestive health and aids in colon cleansing. The repair of the fistulous tract is frequently aided by the use of herbal enemas containing components like dashmool or triphala.
- **Virechana (purgation therapy)**: aids in the body's removal of toxins and Pitta balancing, which is frequently made worse in cases of fistula.

4. Dietary Guidelines (Ahar)

- To ensure regular bowel movements and avoid constipation, light, easily digested foods are advised. In addition to preventing more fistula irritation, this lessens strain during feces.
- Diets high in fruits, whole grains, and leafy greens support intestinal regularity.
- Steer clear of fried, fatty, and spicy foods since these might exacerbate inflammation and increase Pitta dosha.

5. Lifestyle Changes (Vihar)

• Continue to have regular bowel motions.

• To improve digestion, engage in light physical activities like yoga or walking.

• Refrain from sitting for extended periods of time as this may worsen the disease and cause more discomfort.

6. Local Application of Herbal Pastes and Oils

- **Jatyadi Taila**: a therapeutic oil with wound-healing qualities that is frequently applied to the afflicted region.
- **Turmeric paste**: used externally to lessen infection and irritation.

7. Internal Cleansing with Ayurvedic Formulations

• Internal healing is supported by guggulu-based preparations like Pippalyadi Guggulu and Kanchanara Guggulu.

Ayurvedic infusions such as Dashamoola Kashaya are recommended for the purpose of internal purification and inflammation alleviation.

8. Prevention and Post-Care

• Maintaining good cleanliness and avoiding infections after treatment is essential. • Recurrence can be avoided by adhering to a Pitta-Kapha pacifying diet and lifestyle.

Complications:

Chronic Fissure Formation: If treatment is not received, acute fissures may develop into chronic fissures.

Sentinel Pile or Skin Tags: A fibrotic tag of skin at the fissure site known as a sentinel pile is frequently linked to chronic fissures.

Fistula Formation: An anal fistula can occasionally result from a persistent fissure.

Incontinence: Fecal incontinence following surgery, especially sphincterotomy, is a concern that has been reduced by advancements in medical technology.

Prevention:

Maintaining a high-fiber diet, drinking enough of water, not straining when passing gas, and quickly addressing underlying illnesses like diarrhea or constipation are all examples of preventive strategies.

Discussion-

A minor tear in the mucosal lining of the anal canal is called an anal fissure, or fissure in ano. Despite being mistaken for fistulas, these two disorders are not the same. A fistula is an irregular connection between the anal canal and the skin, whereas a fissure is mainly caused by trauma, inflammation, or extreme strain during bowel motions. The two types of fissures are mostly principal fissures usually brought on by straining from constipation or trauma sustained during defecation, especially when passing firm stools. Because of its inadequate blood supply, the posterior midline of the anal canal is most frequently impacted. Secondary fissures: These can be brought on by underlying illnesses that induce persistent inflammation or infection around the anus, such as HIV, TB, or Crohn's disease.

Conclusion:

Even though ano fissures are frequently excruciating and incapacitating, they are typically treatable with conservative measures. Surgery is an excellent treatment for persistent or resistant patients. In order to prevent recurrence, patient education regarding food practices and bowel movements is essential. For the purpose of an

accurate diagnosis and course of treatment, it is crucial to distinguish between fissures and fistulas. Although anal fissures are a frequent and uncomfortable ailment, they can be adequately treated with conservative measures and, if necessary, surgery. Whether the fissure is acute or persistent determines which course of treatment is best. In order to avoid problems and encourage healing, early detection and suitable treatment are essential.

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