



THE EXPERIENCE OF A DAYCARE CENTRE WITH A MINIMALLY INVASIVE APPROACH FOR PERIANAL ABSCESSSES IN ADULTS.

Community Medicine

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ABSTRACT

Introduction: Perianal abscesses are commonly treated using the traditional cruciate incision and drainage method, considered the standard universal therapy. However, a minimally invasive approach involving a small incision for draining uncomplicated perianal abscesses is gaining attention. In this comparative analysis, we explore the efficacy of this minimally invasive technique against the conventional approach. **Methods:** Our research investigates the postoperative outcomes of two different surgical methods: traditional cruciate incision and drainage versus a minimally invasive approach. This study was conducted at the Dr. Scott's Laser Piles Fistula Daycare Centre in South India over a 42-month period from December 2019 to June 2023. The study involved 36 patients and was designed as a retrospective descriptive study. Statistical analysis primarily involved calculating the mean. Key parameters under scrutiny encompass pain levels, dressing requirements, recurrence rates, readmissions, operative time, length of hospital stay, complications, wound healing progress, and associated costs. **Result:** We have employed the Clavien-Dindo classification system, a widely accepted standard in surgical practice, to categorize adverse complications resulting from surgical procedures. Our study outcomes demonstrate clear benefits associated with the minimally invasive approach. Patients who underwent this procedure reported lower levels of postoperative pain, reduced demand for dressing changes, and quicker recuperation. While recurrence rates were similar between the two methods, the minimally invasive approach led to significantly fewer readmissions. The procedure's shorter operative time contributed to a decreased duration of hospital stay. Notably, complications occurred less frequently, and wound healing progressed more positively in this group. **Conclusion:** Based on the comprehensive comparative analysis, we recommend the minimally invasive approach, such as transcutaneous drainage, as an ideal strategy for managing uncomplicated perianal abscesses. This alternative technique demonstrates comparable efficacy and offers several advantages regarding patient comfort, resource utilization, and healthcare costs.

KEYWORDS

Perianal abscess, ischiorectal abscess, minimally invasive approach, incision and drainage, fistula in ano

INTRODUCTION:

A perianal abscess is a painful condition caused by pus development near the anus, often originating from infections in anal glands. These abscesses around the dentate line can extend downward or laterally, resulting in perianal or ischiorectal abscesses. While anal gland infections are common causes, research suggests specific factors like Crohn's disease, trauma, HIV, STDs, radiation, or foreign bodies may contribute.

The perianal abscess can lead to an anal fistula, connecting the rectum and skin or causing systemic infection. Traditional treatment involves a large incision, spinal anaesthesia, and a 3-5 day hospital stay with dressing changes and antibiotics. This results in a large wound, potential complications, and a prolonged recovery with scarring. Minimally invasive approaches with a micro-incision offer reduced pain, shorter hospital stays, lower costs, and improved outcomes compared to larger incisions.

MATERIALS AND METHODS

Study centre: Dr Scott's Laser Piles Fistula Daycare Centre, South India.

Study period: December 2019 – June 2023 (42 months).

Sample size: 36 patients.

Study design: Retrospective descriptive study

Statistic tool: mean

Inclusion criteria

- Subcutaneous abscess
- Ischio rectal abscess
- Horse-shoe-shaped abscess

Exclusion criteria

- Sub mucous abscess
- Intersphincteric abscess
- Supralelevator abscess
- Perianal abscess with fistula-in ano.
- Perianal abscess with Sepsis
- Retrorectal abscess

Examination And Investigations:

History of the complaints was collected and a digital per-rectal

examination was done to diagnose an anal abscess, with documentation of the upper and lower extent, circumferential involvement, presence of a fistula in ano, any prior perianal scarring, continence, squeeze pressure, resting anal tone pressure, and signs of Sepsis. Every patient undergoes an MRI 1. To locate and identify the extent of the abscess and to know the type of abscess. 2. To find abscess that associated with fistulous tract. (figure1) for a comprehensive evaluation. Blood investigations encompass a complete blood count, liver function test, prothrombin time (international normalized ratio), blood grouping, random blood sugar, hepatitis B surface antigen, creatinine, and human immunodeficiency virus testing.

Technique:

Typically, a critical incision is made during the surgical procedure, and a corrugated drain is inserted to facilitate drainage of the infection. For ischiorectal, perianal horse-shoe-shaped, and subcutaneous abscesses, we opt for the transcutaneous route in our approach under SA laying the patient in a lithotomy position.

Our Method:

In our transcutaneous route method, the procedure is conducted under spinal anaesthesia, beginning with the preparation of the anal area. A minimal incision (0.5-1 cm) is carefully made near the perianal margin using a skin scalpel blade near the anal verge. The abscess cavity is then probed to break down any loculations, and pus is drained from the cavity (refer to Fig 2). To ensure cleanliness, the abscess cavity undergoes thorough irrigation with betadine, hydrogen peroxide, and normal saline.

A single-lumen Foley's Catheter is shortened and secured with 2-0 ethilon. This catheter is positioned in the wound for continuous pus drainage and daily irrigation (see Fig 3). A simple absorbent, sterile dressing is applied over the wound. After 48 hours, the drain tube is removed, making the entire process suitable for a daycare procedure.

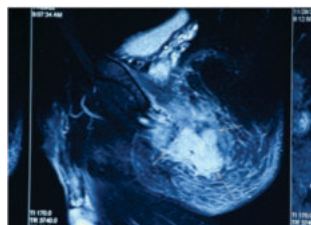


Fig 1. MRI



Fig 2. The dotted line shows an abscess



Fig 3. Foley's catheter insert

Fig4.10th pod**Discharge Advice:**

T.Ofloxacin 200mg + ornidazole 500mg twice daily for three days,
T.Aceclofenac 100mg+paracetamol 325mg twice daily for three days,
T. Ranitidine 150mg B.D for five days.

Laxative according to the bowel habit, Sitz bath, advised bowel habits like toilet time less than 15mins, avoid straining during defecation. Irrigation was explained to the patient and the attendee, advised a high-fibre diet and plenty of water.

Telephone update for 24-72 hrs. We advise the patient to come to follow up on day 3. We follow up with the patient to rule out fistula for 4 to 6 weeks after the procedure.

RESULT:

In a medical procedure performed under spinal anesthesia, the patient was positioned in lithotomy to address a perianal issue, likely an abscess. A precise incision, smaller than 1.5 cm, was meticulously made to evacuate the accumulated pus. Following the drainage, the affected area was thoroughly cleansed using hydrogen peroxide and saline solutions. A Foley's catheter was inserted to ensure continuous drainage post-operation. Interestingly, despite the conventional practice of hospital stays post such procedures, this case presented an opportunity for same-day discharge, bypassing the typical 5-day hospital observation period. The criteria for discharge were contingent upon the patient's satisfactory recovery by the third postoperative day. Specifically, the absence of fever and the lack of tenderness in the perianal region were the key indicators. Should the patient remain afebrile and display no signs of perianal discomfort by this point, the Foley's catheter, serving as a draining mechanism, would be removed, signifying a successful and uncomplicated recovery process.

Notably, there were no readmissions or the need for redo surgery. Our study included a diverse population of both male and female participants.

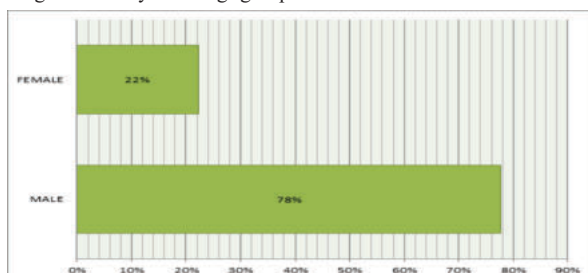
Among the 36 patients who underwent this procedure, two accidentally removed the drain at home

While complications such as Sepsis, fistula formation, faecal incontinence, urinary retention, and constipation can arise after perianal abscess surgery, none of our patients experienced such complications.

Out of the 36 patients who underwent this minimally invasive procedure, the average age of those with perianal abscess was 44.06 years. Notably, individuals between 30 and 50 were more frequently affected.

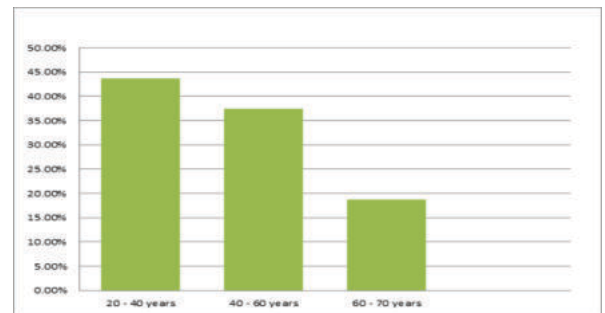
Analysis:

In this retrospective descriptive study of minimally invasive, out of 36 patients, 28 were male (77.7%), and eight were female (22.2%). The mean age of the minimally invasive patients was 44.06 years—with a range of 20 - 70 years of age group.



Graph 1: Incidence By Gender - Male(72%) ; Female(28%)

Graph 2 illustrates the distribution of affected individuals across age groups, from 20 to 70 years, among the 36 patients in the study. Notably, the retrospective analysis reveals that patients within the age range of 20 to 40 years exhibit a higher prevalence compared to other age groups. Specifically, out of the 36 patients who underwent the procedure, 43.75% fell within the 20 to 40 years age bracket, 37.5% were between 30 and 60 years old, and 18.75% were in the 60 to 70 age group.



Graph 2: Incidence By Age Group:

Clavien dindo classification system is widely used in surgery for grading adverse complications which occur as a result of surgical procedures; it was originally described by Clavien and Dindo in the year 2004. It consists of 7 grades (I, II, IIIa, IIIb, IVa, IVb and V).

Grade I of the Clavien–Dindo classification was defined as any deviation from the normal postoperative course without needing pharmacological treatment or surgical, endoscopic, or radiological interventions. Acceptable regimens include antiemetics, analgesics, antipyretics, diuretics and bedside wound care. Grade II was defined as complications requiring pharmacological treatment with drugs other than those permitted for grade I complication. Grade III of the Clavien–Dindo classification was defined initially as surgical complications requiring surgical, endoscopic, or radiological intervention and was further classified into grades IIIa and IIIb depending on whether the intervention was performed under general anaesthesia. Grade IV was defined as a life-threatening complication that requires management in a high dependency and was further classified into grade IVa and IVb in terms of single or multi-organ dysfunction. Finally, a complication resulting in death was graded as V. In Clavien dindo classification for complications after surgery, our patients had grades I and II.

Advantages:

Utilizing a minimal incision approach offers several advantages in medical procedures. Firstly, it minimizes the risk of hypoesthesia, ensuring sensory preservation in the treated area. This safe and effective modality is characterized by its non-repetitive nature, avoiding unnecessary redundancy. Additionally, the procedure demands less reliance on analgesia, providing patients with a more comfortable postoperative experience. Notably, the minimal incision technique reduces scarring and enhances cosmetic outcomes. Another notable benefit is eliminating the need for regular dressings, streamlining the postoperative care process. Notably, the low cost of treatment makes this approach an economically feasible option, further underscoring its appeal in various medical interventions.

The micro-incision employs a more minor cut (less than 1 cm) and does not involve the excision of skin flaps. Consequently, the wound healing time is shorter, ranging between 5-7 days, and requires minimal dressing and follow-up appointments. This approach promotes an early return to work and leaves no visible scar. Additionally, the micro-incision technique is associated with a lower cost burden than the cruciate incision, making it a favourable choice for some instances.

CRUCIATE INCISION	MICRO INCISION
Large incision(2-7 cm)	Small incision(<1cm)
Excision of skin flaps	No such procedure
Wound healing time > 7 days	Wound healing time 5-7 days
Regular dressing and follow-ups	Minimal dressing and follow-up
Return to work is delayed	Early return to work
Ugly scar	No scar
Cost burden high	Cost burden low

DISCUSSION:

Our daycare centre specialises in treating ischiorectal abscesses and subcutaneous abscesses using a transcutaneous method. This minimally invasive approach effectively manages these conditions in an outpatient setting, emphasizing patient convenience and efficient recovery. Our experienced team employs the transcutaneous method to address ischiorectal and subcutaneous abscesses, providing high-quality care that promotes swift healing and minimal disruption to daily activities.

Perianal abscesses exhibit a higher incidence in men than women. They are predominantly caused by non-specific factors, often stemming from obstruction and subsequent infection of the epithelial crypts in the anus. Symptoms commonly include localized swelling, erythema, skin irritation, discharge of pus, and pain associated with bowel movements. Fever, chills, and malaise may also be present. While 90% of cases have a non-specific aetiology, other factors such as inflammatory bowel diseases, trauma, or cancerous origins can contribute. Patients on immunosuppressive drugs get affected more.³ Chronic ulcerative colitis patients may also be susceptible to perianal abscess development⁴.

Various minimally invasive techniques have been explored, including **percutaneous Drainage**: This involves using imaging guidance (such as ultrasound or CT scans) to guide the placement of a catheter into the abscess cavity for drainage. **Endoanal Ultrasound-Guided Drainage**: This technique involves using endoanal ultrasound to guide the placement of a drainage catheter into the abscess cavity. **Video-Assisted Anal Fistula Treatment (VAAFT)**: While more commonly used for fistulas, VAAFT has been explored for certain abscess cases. It involves using a small endoscope for visualization and treatment.

Although lacking extensive research, the minimally invasive approach for managing perianal abscesses in adults has shown promising results. Using a modified and shortened Foley catheter, retained for only 48 hours post-surgery, contributes to a shorter recovery period, typically less than a week. However, caution is advised regarding potential fistula development later on, given the observed association of 30 to 70 percent of anorectal abscesses with concurrent anorectal fistulas.

Recurrent or complex cases warrant evaluation for underlying conditions such as Crohn's disease⁵. Abscess can also develop in long fish bone injury in perianal area⁶. Antibiotic consideration is essential for patients with high-risk conditions, immunosuppression, diabetes, extensive cellulitis, prosthetic devices, and high-risk cardiac⁷, valvular, and anatomic conditions as these individuals may experience more extensive infections and are prone to anorectal Sepsis due to impaired wound healing.

Studies recommend a comprehensive physical examination, including a digital rectal examination, MRI, CT scan, or endo sonography for anorectal abscess cases⁸. Surgical intervention with incision and drainage is generally suggested, with no specific recommendation for packing. In cases of drained anorectal abscesses with Sepsis, antibiotic administration is advisable⁹. These guidelines aim to provide a comprehensive and tailored approach to managing anorectal abscesses based on individual patient characteristics and risk factors^{10,11}.

Limitations Of Our Study:

The limitations of our study are notable, primarily attributed to the relatively small sample size. Recognizing the need for a more robust investigation, we acknowledge the need for a more extensive randomized controlled study to generate more reliable and generalizable results. Expanding the scope of research through a larger and more diverse cohort will enhance the validity and applicability of our findings, addressing the current limitations and providing a more comprehensive understanding of the subject under investigation.

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CONCLUSION:

Anorectal abscesses are a prevalent clinical concern demanding swift diagnosis and tailored management. This review accentuates the

importance of adopting a comprehensive, minimally invasive strategy, particularly emphasizing the effectiveness of a transcutaneous approach. This approach proves particularly suitable for perianal abscesses characterized by a low risk of complications, boasting a high overall success rate.

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