



## Anal abscesses and fistulas: patient-centred care

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Nadesłano: 8.12.2023 Zaakceptowano: 14.12.202

### Abstract

The aim of the study was to systematise the principles of care provided to patients with anal abscesses and fistulas based on the tenets of patient-centred care.

The mainstay of treatment for anal abscesses and fistulas is surgery. The choice of therapy depends, among other factors, on the patient's clinical condition and the location and course of the fistula tract in relation to the sphincters and other anatomical structures. When considering a therapeutic approach, patients' preferences play an important role. After assessing the balance between treatment benefits

and potential risks of complications, some patients choose to forgo radical surgical intervention and instead opt to live with an active fistula treated with a loose seton alone.

However, continuous outpatient care is essential for all patients undergoing treatment for anal abscesses and fistulas. It involves monitoring the process of wound healing, changing dressings, and ongoing education regarding home wound care, dietary adjustments, managing bowel movements, post-bowel movement hygiene, and physical activity.

**Key words:** anal abscesses and fistulas, patient-centred care, information and education, quality of life.

### Introduction

Patient-centred care (PCC) is not a novel approach to the care of patients. The concept was first introduced in the 1950s, but it gained broad recognition in medical literature during the late 1990s. PCC is built on respecting the patient's experiences, values, needs, and preferences throughout the process of planning, coordination, and administration of care. It is expected that engaging patients in their care and empowering them to participate in treatment decisions will enhance personal health outcomes, improve patient satisfaction with care, and decrease the overall cost of healthcare [1, 2]. The applications of PCC as the model of care have been reported in the geriatric populations, and patients with multimorbidity and various other clinical conditions [3–6].

Given the absence of studies on personalised care for patients with anal abscesses and fistulas in the existing literature, an attempt was made to systemize the care pathway in this group of patients in line with the principles of PCC.

### Anal abscesses and fistulas

An anal abscess is an enclosed pocket of pus located under the skin and in the deeper-lying tissues in the anorectal area. Anal abscesses are thought to be caused primarily by cryptoglandular infections. The location of abscesses is determined by how tissue inflammation spreads through the perianal anatomical spaces. Depending on the location, abscesses are classified into perianal, ischiorectal, intersphincteric, and supralelevator types [8–10]. More than 20% of patients with an abscess develop a fistula. Most anal fistulas are diagnosed within the initial year after abscess drainage [11].

An anal fistula is an abnormal passage that develops between the anus and the perianal skin or anoderm. It may occur de novo or develop after an acute anal abscess [12]. Consequently, some surgeons consider an abscess to be an “acute fistula” and a fistula to be a “chronic abscess”. Intersphincteric or transsphincteric fistulas that traverse the anal sphincters low in the anal canal are referred to as simple fistulas. Complex fistulas, on the other hand, pass through the

sphincters high up in the anal canal or have a complicated course with multiple tracts [11].

Anal abscesses and fistulas do not always result from infections originating in anal crypts. Other possible causes include Crohn's disease, rectal and anal tumours, iatrogenic trauma (proctological and gynaecological surgery), injury to the rectal and anal walls (caused by foreign objects, anal intercourse, accidents, self-harm), radiation-induced damage, and, less commonly, conditions including tuberculosis, HIV infection, lymphoma, leukaemia, or actinomycosis [8, 9, 11].

The mainstay of treatment for anal abscesses and fistulas is surgery. Multiple surgical modalities are currently available, with a special emphasis on sphincter-sparing procedures and techniques associated with high healing rates [13, 14].

### Clinical manifestations

Anal abscesses and fistulas are more prevalent in men than in women. The highest incidence is observed in individuals between the ages of 20 and 50 [9, 15]. Certain risk factors, such as a poor lifestyle (more frequently associated with men), along with specific medical conditions have been identified as contributors to the disease. Consequently, the risk of perianal abscesses and fistulas increases in smokers [16, 17] and individuals with a sedentary lifestyle and low levels of physical activity [18]. Other factors predisposing to the development of the condition include inappropriate dietary habits like alcohol consumption, high daily salt intake, and excessive consumption of spicy and fatty foods [9, 18]. Patients with perianal abscesses are clinically more likely to have concomitant diabetes mellitus, inflammatory bowel disease, body mass index > 25, hyperlipidaemia or dermatoses [18].

Anal fistula presents with the leakage of purulent discharge (Fig. 1), serous fluid, bloody content and occasionally faeces. Patients commonly report pain, discomfort while sitting, and oozing discharge, leading to an uncomfortable sensation of wetness, itching, and potentially even skin maceration in the affected area. Pain increases significantly when the fistula tract is obstructed and abscess is formed [8, 12]. Aside from pain, patients with an anal abscess often report sensations of fullness and discomfort in the rectum. Superficial abscesses are accompanied by fluctuance. Systemic signs of an ongoing inflammatory process typically include elevated body temperature, chills, leukocytosis, and rapid deterioration in general condition. With high abscesses, local symptoms might be



Figure 1. Anal fistula with visible external opening

less evident, but patients tend to be in poorer overall condition. Occasionally, patients with an anal abscess may experience urinary retention [8].

### Areas of patient-centred care in the treatment of anal abscesses and fistulas

Patient-centred care goes beyond shared decision-making and includes consideration of the patient's physical and emotional symptoms, care coordination, and involvement of family members. PCC covers eight key areas that will be discussed further in the study.

#### Respect for patient preferences

One of the main tenets of PCC involves recognizing the patient's right to select a healthcare provider and make decisions regarding medical examinations, and treatment and care options. The medical team provides an individual approach and personalized care by honouring the unique needs, preferences, values, emotions, beliefs, concerns, and expectations of each patient, considering their prior care experiences and effects of the illness on their daily life [1].

The main treatment goals include abscess drainage, fistula removal, and reduction of the risk of disease recurrence and faecal incontinence. Before recommending the most suitable treatment option to the patient, a comprehensive diagnostic work-up is essential [12]. Diagnosis requires detailed medical history taking, with attention given to the patient's current symptoms, information about diseases with similar clinical presentations and conditions having a direct impact on treatment (e.g. diabetes, disorders treated with immunosuppressants, anticoagulants, etc.) as well as gas and/or faecal incontinence, and identification of their causes (e.g. neurological conditions,

history of proctological procedures or instrumental deliveries). Physical proctological examination consists of visual inspection of the anal region, digital rectal examination, and anoscopy. When examining the anal area, it is important to pay attention to scars from prior interventions and assess the number of external fistula openings. During the digital rectal examination, the patient should be instructed to contract the anus to allow for an evaluation of sphincter tone. Anoscopy or rectoscopy helps determine the location of the internal fistula opening, transrectal ultrasound aids in identifying an abscess, while colonoscopy is helpful with the differential diagnosis for ulcerative colitis, Crohn's disease or cancer [8, 15]. Additional diagnostic evaluations, like endosonography or MRI, help guide treatment decisions for complex perianal fistulas [19, 20]. Postoperative MRI is predictive of long-term fistula healing [21–23].

In the treatment of anal abscesses, the modality of choice is surgery. Commonly used methods include simple incision and drainage of the abscess and incision of the abscess with thread/seton drainage [8, 9]. Incision and drainage procedures are performed in the majority of hospital emergency departments and surgery departments on an emergency basis. The above management is safe for patients with small and primary anal abscesses [10, 24]. Narayanan *et al.* highlight the importance of the place where surgical procedures are performed. Improved exposure and patient comfort in the operating room may allow more complete drainage, thereby contributing to reduced rates of abscess recurrence or fistula formation [25].

Surgery for anal fistula is often regarded as one of the most challenging procedures in coloproctology. This is because of the high rate of postoperative complications including disease recurrence and sphincter failure. Hence fistulas, especially complex types, require treatment in specialised proctology centres [8]. Charalampopoulos *et al.* conducted a literature review of surgical interventions used for the treatment of fistulas. The researchers detailed various procedures spanning from the globally recognised method of fistulotomy, used for treating simple intersphincteric fistulas, to novel surgical methods that have not yet been incorporated into treatment guidelines. When selecting a safe fistula closure procedure, surgeons should take into account the underlying cause of the condition, the complexity of the fistula, and other associated risk factors. A thorough knowledge of the anatomy of the anal canal (especially the sphincter muscle system) is essential to prevent incontinence [13].

Mei *et al.* conducted a study to identify risk factors for postoperative complications classified into three categories. Patient-related risk factors included concomitant colitis, inflammatory bowel disease, and the use of immunosuppressants. The second category consisted of fistula-related factors including transsphincteric fistula, number of fistulas, horseshoe fistula, undetected internal opening, location of anal fistula, recurrent fistula, suprasphincteric fistula, and height of the internal opening. The third area comprised surgery-related factors, i.e. type of surgical intervention, previous fistula surgery, and surgeon's experience. The researchers highlight that surgical complications have serious medical and economic repercussions, impair patients' quality of life, and adversely affect the doctor-patient relationship [26].

With regard to respecting patients' preferences and involving them in the decision-making process for treatment, very interesting experiences were reported by Ratto *et al.* They highlighted that surgeons should have a deep understanding of the surgical techniques and healing rates, as well as the risk of complications, such as faecal incontinence, which can restrict daily activities and adversely impact the quality of life. These are the areas where patients often lack knowledge. The surgeons participating in the survey were requested to simulate being a potential patient affected by either a low or high anal fistula and offered treatment by fistulotomy. This treatment modality was considered most acceptable by male surgeons, with professional experience including conducting upwards of 20 fistula surgeries per year, and in cases of low fistula. Significantly higher surgery acceptance rates in low fistula compared to high fistula cases were attributed to the expected treatment success/failure and the associated risk of incontinence. The study showed that the surgeons recognised the extreme complexity involved in fistula treatment. It is presumed that if the surgeons were willing to undergo fistulotomy, they would also be open to discussing and presenting this surgical option to the patient. However, given the multitude of aspects involved in the surgical treatment of fistulas, patients should be approached on a case-by-case basis and offered an individualised treatment strategy [27]. The choice of sphincter-sparing procedures depends to a major extent on the surgeon's expertise, morphology of the fistula and, in some cases, the patient's preferences. Patients should understand that achieving complete closure of the fistula may necessitate multiple interventions, and in certain instances, fistulas may not be curable at all [11].

## Information and education

Keeping patients informed about planned interventions, personalised to their specific needs and capabilities, has a beneficial effect on their drive towards independence and ability to engage in self-care. Education plays a crucial role in post-operative management. It is an element of routine treatment in patients with anal abscesses and fistulas. Patients need to be educated about healthy lifestyle, balanced nutrition, glycaemic control, medication regimens, treatment of concomitant chronic conditions, changes of dressings, and follow-up medical appointments as part of their long-term care [9].

Patients should be provided with detailed guidance related to their daily activities at home, including:

- instruction on how to change wound dressing and how often it should be done (usually twice a day and as needed),
- wearing comfortable underwear and garments,,
- protecting undergarments from contamination due to wound exudates or the risk of bleeding by wearing pads (to be replaced as frequently as necessary),
- sitz baths/warm tub baths, perineal hygiene after each bowel movement, ensuring an optimal water temperature; using a soft towel to delicately dry the skin and anal area,
- eliminating scented cosmetics causing skin irritation from the care of the perineal area; lubricating ointments may be used to prevent maceration of the skin,
- treatment of pain with prescribed analgesics,
- regularly attending scheduled follow-up appointments,
- seeking medical attention outside of scheduled appointments if any concerning symptoms arise, including elevated body temperature, severe pain in the anal region, oedema, profuse bleeding or foul-smelling discharge from the wound site, nausea, inability to pass stool for more than three days, difficulty passing urine,
- diet rich in fibre to prevent constipation, along with ample fluids, and use of stool softeners, if needed,
- educating the patient about the importance of regulating bowel movements (not holding back the defecation reflex due to pain, using mild laxatives (e.g. small-volume rectal enema) to relieve constipation, and avoiding prolonged sitting on the toilet to prevent swelling and bleeding,
- maintaining appropriate physical activity suited to the physical ability of each patient, avoiding

prolonged sitting and excessive walking; refraining from swimming until the wound has completely healed,

- sphincter muscle exercises (5–10 minutes several times a day) to reduce the risk of incontinence [28, 29].

## Coordination and integration of patient care

In this area of personalised care for patients with anal abscesses and fistulas, it is essential to focus on collaboration among healthcare providers to improve therapeutic management by addressing both substantive and funding-related aspects [1]. Because of varying rates of abscess recurrence and fistula formation, ranging from 20% to 70%, patients often require multiple interventions and repeated hospital stays. These sequelae result in both physical and emotional distress for patients, while also leading to a substantial increase in healthcare costs [25]. Because anal abscesses progress rapidly and patients' overall health may decline, they might be treated in various hospitals, which is an unfavourable scenario, with a negative impact on the coordination and integration of care. For example, there might be missing clinical data on previous examinations and treatments conducted at different facilities [9].

Since the success of treatment, especially for complicated fistulas or conditions after previous surgeries, depends on the expertise of the operator, it is recommended that patients seek treatment in specialised proctology centres [30]. Efficient organisation of care aims to address feelings of powerlessness and helplessness experienced by patients, with a primary focus on measures to minimise complications.

## Involvement of family and relatives in care

Involving family or relatives in the care of patients with anal abscesses and fistulas should be contingent on the patient's expectations and consent. Like with many other health conditions, patients in this group benefit greatly from the support and care of their loved ones. However, the nature of the disease often leads to significant embarrassment and feelings of shame for patients, mainly because the pathological changes are located in the intimate areas of the body. From another point of view, patients may find it impossible to change dressings and evaluate wounds after abscess incision or fistula excision without any assistance. In such scenarios, the assistance of the person closest to the patient becomes essential.

## Patient comfort

Key factors for creating a secure care environment and ensuring physical and mental comfort for patients include pain management, postoperative wound care, and measures to facilitate the patient's rapid return to independent daily activities [1].

Pain is one of the most disruptive symptoms experienced by patients with anal abscesses and fistulas, which is why surgical examination under anaesthesia is conventionally regarded as the gold standard [10]. Implementation of pain management standards and monitoring strategies is crucial in the holistic care of this patient group. Patients report moderate to severe pain also after undergoing surgery. In addition, rich vascularisation and innervation of the anal canal increases the risk of tissue swelling, urinary retention, and difficulties with defecation. Effective pain relief improves patient comfort, has a positive impact on patient satisfaction with treatment, and facilitates rehabilitation [31].

Intersphincteric and submucosal abscesses are incised from the crypt, but the majority of other abscesses are incised through the skin approach [8]. Following surgical incision and drainage of the abscess under general anaesthesia, it is a routine practice to apply a dressing to pack the abscess cavity [32]. The purpose of packing is to ensure haemostasis and prevent premature closure of the skin wound, allowing healing to progress from the wound's base. Wound dressing is typically changed once to twice daily, continuing over several weeks until the wound is completely healed. When changing dressings, the wound should be lavaged with antiseptics for deep wound care. In addition, setons should be replaced on a regular basis. In some cases, making a small incision is recommended to place a catheter or drain in the abscess cavity. The drain, secured with external dressing, is left in place until the discharge has ceased [8, 15]. This approach is thought to lower the risk of perianal fistula formation and abscess recurrence. However, there is no conclusive evidence to support this claim, and studies reveal high levels of pain during wound dressing changes. Added pain and discomfort experienced during dressing changes significantly impact the quality of life, diminish the overall well-being, impair patients' functional capacity, and delay the return to work. The multicentre Postoperative Packing of Perianal Abscess Cavities (PPAC2) study found that dressing the wound without packing the abscess cavity causes considerably less pain without a significant increase in adverse effects such as perianal fistula and abscess recurrence.

Wound management in the study group consisted of lavage and external dressing or hygienic absorbent pads [32].

An alternative to the conventional several-centimetre incision of the abscess with the dressing type described above is a shorter skin incision, 1 to 2 cm long, performed to drain the abscess using negative pressure therapy combined with irrigation of the abscess cavity. This approach leads to enhanced primary treatment efficacy, relieves post-operative pain, expedites healing, and reduces the risk of anal abscess recurrence, fistula formation, and other complications [33]. Chen *et al.* reported positive outcomes of negative pressure irrigation and suction in the treatment of anal abscesses. The study protocol consisted of maintaining negative pressure at 200–300 mmHg, checking for drainage leaks, detailed description of the replacement of the drainage system, and monitoring and reporting the volume of wound discharge, its colour and nature. In addition, the patients received pain management, psychological counselling, and health education. In the group treated with negative pressure, there was a significant decrease in pain, improved bowel movements, and a reduced likelihood of complications compared to the outcomes observed in the control group (patients treated conventionally) [29].

After fistula surgery, wound care also involves daily dressing changes (Fig. 2), wound lavage, and seton replacement. From days 4 or 5 after the procedure, the patient can take sitz baths [8, 28]. In patients treated with thread drainage (cutting drainage), therapy takes a few weeks. Details of the procedure, such as tightening the thread, are determined on a case-by-case basis. Sometimes thread tightening can be done by patients themselves, following appropriate instruction, until it cuts through the sphincter muscles. Drainage time usually depends on the thickness of the muscle being transected [8, 15, 34].

There is ongoing research to develop new wound treatment and dressing change techniques after anal abscess and fistula surgery in order to achieve the best possible treatment outcome, reduce dressing change time, relieve pain, and decrease the risk of recurrence, while shortening the duration of hospitalisation and lowering costs [35, 36].

There is no sufficient evidence or established guidelines specifically addressing antibiotic therapy after anal abscess drainage. Selective antibiotic therapy is indicated, depending on the patient's clinical status [15, 25]. Swabs from the abscess cavity are not recommended on a routine basis, though the available

data show that methicillin-resistant *Staphylococcus aureus* (MRSA) may be present in up to 35% of anal abscesses. Therefore, microbiological testing might be considered in patients with risk factors for infection with multidrug-resistant organisms (MDRO) or recurrent infections or non-healing wounds, and in high-risk groups (e.g. HIV-positive, immunocompromised patients) [15]. No risk of fistula formation was shown in patients with anal abscesses with no isolated gastrointestinal bacteria. However, a predictor of anal fistula development was found to be the presence of *Escherichia coli*, which was identified in the cultures from specimens collected from all patients with fistulas. Also, isolation of multi-microbial cultures (*Klebsiella pneumoniae*, *E. coli*, *Enterococcus faecalis*) is linked to the formation of highly complex fistulas [37].

### Emotional support

The recurrent nature of anal abscesses and fistulas, along with the distressing symptoms of the condition and prolonged treatment, adversely impact the quality of life. Patients commonly report difficulties in the activities of daily living, avoidance of social interactions, work absenteeism, declining mental well-being, or diminished sexual function [38].

A symptom that significantly impairs the quality of life for patients with anal abscesses and fistulas is faecal and/or gas incontinence. Even though it does not affect all patients, the risk of its occurrence at later stages in the progression of the disease is a major concern for many patients. Efforts should be made to prevent the scenario in which patients refuse surgical treatment due to concerns about sphincter dysfunction. The study conducted by Owen *et al.* found no correlation between faecal continence issues and the overall quality of life. Some patients are able to accept a higher risk of post-operative faecal incontinence because, in their specific health circumstances, a potential improvement in the quality of life, despite some dysfunctions, may outweigh the challenges faced when living with a fistula [39].

The level of support offered to patients determines the individual approach to their problems, taking into account the long-term effects of the illness and its impact on both physical, mental and social well-being. Occasionally, patients need referral to a psychologist or psychotherapist.

### Continuity of care after hospital discharge

In the early post-operative period, outpatient follow-up appointments are needed primarily to change



Figure 2. First dressing change in a patient post fistula surgery. Haemostatic seton removed during dressing replacement

wound dressings at the surgical site. Following hospital discharge, as the health status of patients evolves over time and wound healing advances, they require ongoing guidance for self-care and instructions for managing their condition at home. During follow-up assessments, it is necessary to evaluate the current symptoms, monitor pain, determine sphincter function, make dietary adjustments depending on patients' needs (constipation, diarrhoea) and conduct a general assessment of their quality of life. Around three to four months after surgical treatment, follow-up imaging studies (endosonography, MRI) should be scheduled. In the group of patients with complicated perianal fistulas with seton placement and those with fistulas secondary to other conditions, post-operative follow-up ranges from a few to about a dozen months. In addition, controlling the underlying disease and causal treatment are necessary. Another purpose of patient follow-up is to detect early anal abscess recurrence and fistula formation. If incontinence persists, the patient should be referred to a physiotherapist and prescribed biofeedback therapy [8].

### Access to care

Easy access to medical care should be provided to all patients at high risk of anal abscess recurrence and fistula formation. This applies in particular to patients with concomitant chronic conditions (Crohn's disease, diabetes, cancer) [26] and obese individuals [40]. Special attention should also be given to patients of low socioeconomic status [41]. While there is no clear and indisputable evidence linking this factor to an increased risk of complications, these patients undoubtedly face challenges accessing healthcare. This could be due to transportation issues, difficulties with treatment adherence, or the lack of health insurance, especially among homeless individuals.

Access to care should also be provided to patients who, after evaluating treatment options and weighing the rates of cure and complications, decide against radical surgical procedures. Such patients usually opt for seton placement to prevent abscess formation. Loose seton is replaced at regular intervals during follow-up appointments, and in the opinion of patients treated with this approach, occasional discharge from the fistula does not impair their quality of life [42].

## Conclusions

Patient-centred care plays a pivotal role in nursing practice and requires expertise, which is why it should be closely integrated with evidence-based medicine (EBM) [43]. Clinical nursing decisions should be determined by research findings combined with clinical experience and understanding of patient needs [29]. Implementing the principles of PCC in the treatment of patients with anal abscesses and fistulas can yield tangible benefits by enhancing the efficiency of daily nursing tasks. PCC also increases the overall quality of care, alleviates pain, and eases emotional distress, ultimately resulting in an improved quality of life.

## Disclosure

The authors declare no conflict of interest.

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