Assessment and treatment of three common anorectal conditions

In the second of a two-part series, Anthony Summers discusses the management by nurse practitioners of haemorrhoids, anal fissure and pruritus ani.

Abstract

This is the second of two articles about the kinds of anorectal problem with which people can present at emergency departments. The first article concerns common symptoms and anorectal examination, while this one discusses the diagnosis and treatment of three common anorectal problems that can be managed by nurse practitioners: haemorrhoids, anal fissure and pruritus ani. Unexpected diagnoses might be found on examination and nurse practitioners should refer these patients to appropriate specialists.

Keywords
Haemorrhoids, anal fissure, pruritus ani

THE PREVIOUS article in this series discusses how to undertake anorectal examinations, and several common signs and symptoms of anorectal disease (Summers 2013). This article focuses on three common anorectal conditions that nurse practitioners (NPs) in emergency departments (EDs) should be able to assess and diagnose.

Haemorrhoids

About 5 per cent of the general population have signs and symptoms of haemorrhoids at some point in their lives, and around one third seek clinical treatment for their relief (Arslani et al 2012). Haemorrhoidectomy is the most commonly performed anorectal surgery (Ong et al 2004).

Pathogenesis

The anal canal is a triradiate lumen lined by three fibrovascular cushions in the right anterior, right posterior and left lateral positions. These cushions are suspended by connective tissue derived from the internal anal sphincter and longitudinal muscle, and inside each of them is a venous plexus that allows the cushion to become enlarged and thereby maintain fine continence (Nisar and Scholefield 2003, Hewett and Maddern 2004).

The exact pathogenesis of haemorrhoids is not clearly understood but it is generally accepted that haemorrhoids result from pathological changes in prolapsed anal cushions (Nisar and Scholefield 2003, Lohsiriwat 2012). Damage to the connective tissue due to, for example, the passage of hard stools, can cause the cushions to descend, while straining during the passing of stools can increase venous pressure and engorgement, leading to impaired venous return, dilation of the plexus and venous stasis. Inflammation of the area then occurs, causing erosion of a cushion’s epithelium and bleeding (Nisar and Scholefield 2003).

Signs and symptoms

The most common clinical manifestation of haemorrhoids is rectal bleeding (Billingham et al 2004). The blood, which is usually noticed on wiping or in the toilet bowl, is typically bright red (Mounsey et al 2011).

If there has been a prolapse, a mass might be felt protruding through the anal canal on defecation, which may spontaneously reduce on cessation of bowel movement (Billingham et al 2004). Soiling due to impaired continence or the production of mucus discharge can occur (Nisar and Scholefield 2003), and cause perianal irritation and itching.

Internal haemorrhoids (Figure 1) have no somatic sensory nerves and so are usually painless (Anderson and Dean 2011). External haemorrhoids (Figure 1), which are located anywhere along the anoderm and are innervated by cutaneous branches of the pudendal nerve and sacral plexus, tend to be acutely painful (Anderson and Dean 2011).
Classification Classifying internal haemorrhoids helps to define their severity and potential treatment options. There are four ‘degrees’ of internal haemorrhoids (Billingham et al 2004, Hewett and Maddern 2004, Anderson and Dean 2011):

- First-degree haemorrhoids do not descend below the pectinate line on straining. They are usually painless and present as bright red, rectal bleeding and sometimes a sensation of fullness in the rectum.
- Second-degree haemorrhoids protrude below the pectinate line on straining and at the anal verge. They reduce spontaneously but often cause mild discomfort and bleeding.
- Third-degree haemorrhoids protrude beyond the anal verge with straining and require manual reduction. They often cause bleeding, mucus discharge and sometimes pain due to spasm of the sphincter complex.
- Fourth-degree haemorrhoids lie permanently beyond the anal verge and return outside after manual reduction. Pain, bleeding, thrombosis and strangulation are often experienced.

Causes No definitive cause for haemorrhoids has been identified although it is thought that increased pressure in the anus is a major factor in their development (Pharmaceutical Society of Australia 2010). Other potential causes include (Chan et al 2003, Nisar and Scholefield 2003, Anderson and Dean 2011, Mounsey et al 2011, Lohsiriwat 2012):

- Ageing.
- Anal intercourse.
- Constipation or hard faeces due to medication.
- Coughing, sneezing or vomiting.
- Delay in opening bowels.
- Diarrhoea.
- Low-fibre diet or too little water.
- Medical conditions, such as intra-abdominal tumours or portal hypertension.
- Obesity.
- Pregnancy.
- Rectal or anal surgery.
- Straining during bowel motions.

Treatment Choice of treatment for haemorrhoids depends on their degree. All patients with first-degree and most with second-degree haemorrhoids can be treated conservatively by NPs. Conservative management involves the use of:

- Stool softeners for people with hard stools (Anderson and Dean 2011).
- Hip, or sitz, baths to relax the anal sphincter and reduce pain (Gupta 2008).
- A high-fibre diet to allow easier passage of stool, and to avoid constipation and straining (Nisar and Scholefield 2003).
- Analgesia (Anderson and Dean 2011).

Many non-prescription medications are available to help ease haemorrhoids, although there are no studies to support their use (Mounsey et al 2011). Most of these medications contain local anaesthetics, steroids, astringents and antiseptics. Kenny (2011) recommends the short-term use of such medications while stressing that they help only to relieve symptoms, not to cure the underlying problems.
Steroid-containing creams should not be used for more than two weeks because of their atrophic effects on the skin (Mounsey et al 2011).

If after questioning patients NPs ascertain that conservative management of second-degree haemorrhoids is not working, or if patients have third- or fourth-degree haemorrhoids, they are usually referred to specialists for further management. In such cases, treatment options include (Hewett and Maddern 2004, Leventoglu et al 2008, Anderson and Dean 2011, Mounsey et al 2011):
- Electrocautery.
- Excisional haemorrhoidectomy.
- Infrared coagulation.
- Rubber-band ligation.
- Stapled haemorrhoidopexy.
- Sclerotherapy.

The National Institute for Health and Care Excellence (NICE), formerly the National Institute for Health and Clinical Excellence, has published guidelines on many of these procedures, including circular stapled haemorrhoidectomy (NICE 2003), stapled haemorrhoidopexy (NICE 2007) and haemorrhoidal artery ligation (NICE 2010). These guidelines include detailed information about the procedures for clinicians and relevant information sheets for patients.

If patients present to EDs within 48 hours of the signs and symptoms of thrombosed external haemorrhoids developing, they may benefit from excision, which can be undertaken in EDs (Anderson and Dean 2011).

In this procedure, an elliptical incision is made over the haemorrhoidal complex, which is then mobilised from the underlying sphincter and excised. The wound can then be closed or left open (Anderson and Dean 2011, Mounsey et al 2011). Nurse practitioners can undertake training to perform this procedure in EDs.

Patients with third- or fourth-degree haemorrhoids are advised not to use toilet paper after bowel movements but to wash with mild soap and water in a shower. Topical anaesthetic agents can soothe discomfort, but the routine use of antibiotics is not indicated in the first instance (Anderson and Dean 2011).

If patients are reluctant to undergo excision, NPs can reassure them that most of the signs and symptoms of third- or fourth-degree haemorrhoids resolve in between seven and ten days (Janicke and Pundt 1996), during which the conservative methods described above can provide some relief. Such patients should also be advised that, if the symptoms become worse, they should return to the ED for further evaluation.

**Anal fissure**

Anal fissure (Figure 3) is a subacute condition that presents with intense and constant pain in the anal region (Daniel 2010). It is a linear split in the long axis of the distal anoderm, extending from below the pectinate line to the anal verge (Arslan et al 2012), and is most prevalent in people aged between 30 and 50 (Janicke and Pundt 1996).

**Signs and symptoms** Patients with anal fissure usually present with histories of intense and constant pain aggravated by bowel action (Daniel 2010), which sometimes cause small amounts of bleeding (Hanson et al 2008).

The pain is usually such that they do not want to open their bowels (Daniel 2010) and there may be spasms of the anal sphincter, which makes digital examination or anoscopy painful (Daniel 2012). The lower end of the fissure can be seen by gently parting the buttocks.

**Causes** The precise cause of anal fissure is uncertain, but the most popular theory is that anal tissue is torn by trauma from, for example, anal intercourse or passage of large stools. Such activities can cause stress in the posterior midline of the anus, which tears (Herzig and Lu 2010).

Sphincter hypertonicity is a common finding in people with anal fissure but it is unclear whether hypertonicity and elevated anal pressure are causes or effects of anal fissure (Herzig and Lu 2010).
Although the passage of hard stools is a common antecedent, fissures can also occur after episodes of diarrhoea, when the anal canal must open repeatedly to pass loose stools (Billingham et al 2004).

Classification Anal fissures can be classified as acute or chronic, and typical or atypical.

- Acute fissures usually occur in the posterior midline area within six weeks of onset of symptoms (Herzig and Lu 2010). The fissures have fresh, sharply demarcated edges and granulation tissue at the base (Billingham et al 2004).

- Chronic fissures usually occur after six weeks. There are often signs of sentinel skin tags (Figure 3), hypertrophied anal papillae and relative anal stenoses, and exposure of internal sphincter muscles, in such fissures (Janicke and Pundt 1996, Herzig and Lu 2010).

- Typical fissures are similar to chronic fissures but have granulation tissue at the base (Herzig and Lu 2010). Ninety per cent occur in the posterior midline position (Herzig and Lu 2010), usually in women (Anderson and Dean 2011). They are associated with no disease processes (Herzig and Lu 2010).

- Atypical fissures occur anywhere in the anal canal and tend to be associated with other disease processes, such as Crohn’s disease, HIV/AIDS, cancer, syphilis and tuberculosis (Herzig and Lu 2010, Anderson and Dean 2011).

Treatment Most kinds of anal fissure respond to non-surgical treatments, although primary treatments should be aimed at easing patients’ pain through use of, for example, topical anaesthetics and oral analgesics (Janicke and Pundt 1996).

A high-fibre diet, along with stool softeners and bulk laxatives if necessary, is advised for patients who are constipated (Daniel 2010). Meanwhile, topical glyceryl trinitrate can be prescribed to help improve blood flow to the anus and a topical calcium-channel blocker can be prescribed to help relax vascular smooth muscle (Hanson et al 2008).

Botulinum toxin has also been used to relax anal muscle tone in patients with anal fissure and, although this treatment is usually successful, it is associated with a high risk of short-term incontinence (Vanella et al 2012).

If these conservative methods do not work, patients should be referred to surgeons who specialise in treating these conditions for review. The most common form of surgery in these situations is lateral internal sphincterotomy, which has a 98 per cent success rate (Yiannakopoulou 2012).

Post-operative complications in the other 2 per cent of patients include bleeding, abscess formation, fistula-in-ano and faecal incontinence (Nelson et al 2011, Sinha and Kaiser 2012).

Pruritus ani
This condition involves an itching or burning sensation. In the UK, between 1 and 5 per cent of the population may be affected by pruritus ani at any one time (Stermer et al 2009). No precise figure for the infection rate is given in the literature, however, perhaps because so few people with the condition seek medical advice. It affects four times as many males as females, and most commonly affects people aged between 30 and 70 (Zuccati et al 2005).

Paraphysiology The nerves responsible for pruritus ani are unmyelinated C fibres. The main peripheral mediator is histamine (Weichert 2004, Stermer et al 2009), although serotonin, prostagladins, endogenous opioids and neuropeptides are also involved in the physiopathological mechanism of the itch (Weichert 2004, Stermer et al 2009). Histamine-induced itching has been shown to activate central motor areas linked to the act of scratching (Weichert 2004).

Signs and symptoms Pruritus ani is a chronic, and potentially embarrassing, itching or burning sensation of the perianal skin (Siddiqi et al 2008), although symptoms can also arise in the natal cleft, scrotum or vulva (Stermer et al 2009). Patients often describe an escalating pattern of itching and scratching in the perianal regions, which becomes worse at night (Vincent 1999).

In children aged under three months, and therefore too young to scratch, signs include irritability, sleep disturbance and decreased appetite (Stermer et al 2009).

The condition is diagnosed mainly from patients’ clinical histories although examination of the anorectal area may reveal inflamed, excoriated skin, often with scratch marks present. If the condition is chronic, the skin may appear leathery.

Causes There are conflicting views about the causes of pruritus ani. Markell and Billingham (2010) suggest that between 50 and 90 per cent of patients have primary or idiopathic pruritus ani with no other condition present, while Tunuguntla and Sullivan (2004) suggest that between 25 and 75 per cent of patients have secondary pruritus ani due to another condition.
About 100 different causes for pruritus ani have been reported. Most are co-existing anorectal conditions, predominately haemorrhoids and fissures (Siddiqi et al 2008). The most common of these causes are (Vincent 1999, Weichert 2004, Siddiqi et al 2008, MacLean and Russell 2010):

- Allergic contact dermatitis.
- Colorectal and anal disease.
- Dermatological conditions, such as contact dermatitis, lichen sclerosis and neoplasia.
- Local irritants, such as soap residue and moisturising cream.
- Medications, such as laxatives, colchicine and some antibiotics.
- Perineal faecal contamination caused by poor hygiene, anatomical abnormalities that make removal of faecal material difficult, or primary abnormalities of the internal anal sphincter function (MacLean and Russell 2010). Soiling, which is often occult, may sometimes initiate the itch but not enough for patients to notice (Siddiqi et al 2008).
- Perianal infection, including pinworm in children (Stermer et al 2009).
- Psychological factors, such as stress and obsessive compulsive disorder.
- Specific kinds of food and drink, such as alcohol, caffeinated beverages, chocolate, citrus fruits, milk, peanuts, spices and tomatoes.
- Systemic diseases, such as diabetes.

There is no evidence that clothes cause pruritus ani but, because the itch can be exacerbated by sweating (Siddiqi et al 2008), patients should be encouraged to wear loose clothes made of natural fibre and to avoid prolonged sitting (MacLean and Russell 2010).

The condition can also be exacerbated by attempts to relieve its symptoms, such as vigorous washing with soap, cleaning with dry toilet paper or baby wipes, and scratching (Markell and Billingham 2010).

**Treatment** The priority for treatment is to establish whether the pruritus ani is caused by underlying conditions (Vincent 1999). Nurse practitioners must take thorough histories to identify the signs and symptoms of primary causes, such as anal fissure or haemorrhoids, and of secondary causes, such as systemic disease, and to diagnose or exclude serious pathologies (MacLean and Russell 2010). In examining the perianal area, NPs may also find maceration, erythema, excoriation and lichenification to the perianal skin (Vincent 1999).

If an underlying condition is identified, and treatments are within NPs’ scope of practice, they should be started. If treatments are outside NPs’ scope of practice, patients should be referred to the appropriate specialists.

Treatment of primary pruritus ani concerns re-establishing ideal anal hygiene. This is achieved by ensuring patients:

- Avoid wearing tight underwear or nylon tights, which cause sweating (Weichert 2004). Moisture in the area can be reduced by placing a piece of cotton padding between the buttocks (Markell and Billingham 2010).
- Avoid known irritants, such as soaps and lotions, and foods or drinks known to exacerbate the itch (Vincent 1999).
- Avoid further trauma to the perianal skin, which means no scratching, scrubbing the area or using dry toilet paper (Markell and Billingham 2010). After defecation, the perianal area should be cleaned with water, and the anus should be dried by a hair dryer on a cool setting or by patting with a cotton pad (Vincent 1999). Patients who suffer from stool leakage may need to undertake this routine several times a day.
- Maintain regular bowel movements that are normal in consistency by eating a high-fibre diet and reducing fluid intake (Markell and Billingham 2010).

Patients should be advised not to scratch the area and, since this can occur while they are asleep, they should be advised to keep fingernails short and to wear tight gloves or mittens in bed. A sedating antihistamine can also help (MacLean and Russell 2010). When symptoms have resolved, patients can begin gradually to consume the kinds of food and drink they have had to avoid. If symptoms recur, the last introduced substance should probably be avoided permanently because it is likely to be the cause of the problems.

If symptoms are present even though proper anal hygiene has been established, topical steroids may be prescribed. The application of 1 per cent hydrocortisone cream two or three times a day for up to a week at a time can be effective (Markell and Billingham 2010), although prolonged use or use of more potent steroids can lead to skin atrophy and worsen symptoms (Siddiqi et al 2008).

Another topical preparation that works well is 0.006 per cent capsaicin cream (Lysy et al 2003). However, stronger concentrations tend to cause side effects such as a burning sensation (MacLean and Russell 2010).

Attempts to numb or destroy the subcutaneous nerves by cryotherapy, or by injecting local anaesthetic or a mixture of alcohol and phenol, have been tested but with little success (MacLean and Russell 2010).
Conclusion
Nurse practitioners can assess and treat three of the most common anorectal problems with which people present at EDs: haemorrhoids, anal fissure and pruritus ani.

Patients are often embarrassed about giving histories that concern anorectal problems or about undergoing examination of this sensitive area. Consequently, NPs must be confident in their approach and knowledgeable about the conditions without appearing to trivialise them so that they can increase patients’ confidence. By recognising the degree of haemorrhoid, meanwhile, NPs can help determine the correct treatment, and provide the correct advice and reassurance to patients.

In addition, NPs must be able to distinguish between acute and chronic, typical and atypical fissures, so that they can provide patients with accurate and useful information about their treatment options.

In treating pruritus ani, meanwhile, NPs must obtain good histories and undertake thorough examinations to identify the causes of the condition. In each case, if NPs suspect there is a serious underlying condition, they should refer patients to the most appropriate specialist.

References


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Conflict of interest
None declared.

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