Diagnosing and managing pilonidal sinus disease

Pilonidal is an abscess, usually found in the natal cleft, most frequently caused when a ruptured hair follicle beneath the skin becomes infected forming an abscess (pilonidal cyst) filled with hair, keratin and debris which can develop into a sinus tract (sacrococcygeal fistula) (Pilonidal Support Alliance [PSA], 2011; Harris et al, 2012) (Figure 1).

Pilonidal wounds are painful and distressing and can be a complex problem, requiring time-consuming wound care (Timmons, 2007).

The term pilonidal is from the Latin pilus (hairs) and nidus (nest) (Miller and Harding, 2003). Hair is not always the cause of a pilonidal abscess. In females, the cause is more usually a swollen or ruptured follicle without hair (Notaras, 1970; PSA, 2011).

Complications often occur following surgery to excise or lay open the sinus, with cost implications for the NHS in terms of surgical procedures, inpatient stays, medication and postoperative wound care in the community (Harris et al, 2012).

Pilonidal sinus wounds are not only found in the natal cleft, they can also occur in interdigital spaces in barbers’ hands, the axilla, umbilicus and in above-knee amputation stumps, although this is far less common than in the natal cleft (Uysal et al, 2003).

There are two main theories for pilonidal sinus disease, these are congenital and acquired.

Congenital theory
Before the 1960s it was believed that pilonidal sinus was congenital due to a natural deep pit or ‘dimpling’ found in the natal cleft where hair and dead skin cells collect resulting in a sinus (Timmons, 2007; Hashmi, 2008; Stephen-Haynes, 2008).

Acquired theory
More recently, Bascom (1983) discovered that a hair follicle swollen with keratin (caused by the onset of puberty, Hashmi, 2008) would create an inflammatory response (exacerbated by further hairs growing into the track), folliculitis and eventually an abscess. Once the follicle ruptured an epithelium lined track resulted.

Table 1: Risk factors for developing pilonidal sinus (Marza, 2013)

<table>
<thead>
<tr>
<th>Risk Factor</th>
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<tbody>
<tr>
<td>Obesity</td>
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<td>Sedentary occupation, e.g. sitting for over six hours a day, driving for long periods</td>
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<tr>
<td>Local irritation or trauma before symptoms start, e.g. folliculitis in the perianal area</td>
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<tr>
<td>Family history (one or more family members have pilonidal sinus disease [PSD])</td>
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<tr>
<td>Having a great deal of hair surrounding the sinus</td>
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During the second world war, sacrococcygeal pilonidal sinuses were named ‘Jeep disease’ because many jeep drivers developed them as a result of driving for long periods over rough ground, which caused trauma to hair follicles (Bannerjee, 1999).

CLINICAL PRESENTATION

The incidence of pilonidal sinus is 26 per 100,000 (Bradley, 2006). Recent National Institute for Health and Care Excellence Clinical Knowledge Summaries (NICE CKS, 2014) and Marza (2013) state that the condition is more likely to occur (see also Table 1):

- In males (male/female ratio being 4:1; Harris et al, 2012)
- Being aged 15–40 years
- Being white European
- Unusual male hair growth in women (Hirsutism)
- Having a deep pit in natal cleft
- Having an occupation which involves long periods of sitting
- If there is a family history
- Being obese.

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Clinical presentation can be categorised according to severity:

- **Asymptomatic**: patients might discover the cyst/abscess themselves, or it is spotted during routine anorectal clinical examination (Stephen-Haynes, 2008)
- **Acute**: patients typically present with moderate-to-severe pain in the region of the natal cleft or lower back. A sacrococcygeal abscess with exudate may be present (Stephen-Haynes, 2008), as well as cellulitis (NICE CKS, 2014)
- **Chronic**: patients present with recurring infections in the sacrococcygeal area. Skin may be broken or unbroken (Bannereje, 1999). Antibiotics should be prescribed to avoid surgical intervention (Stephen-Haynes, 2008)
- **Complex or recurrent pilonidal sinus disease**: this occurs when there is recurring infection in nearby follicles or hairs entering the wound while it is healing (Bannereje, 1999). If left untreated, the sinus will become lined with squamous epithelium (Bannereje, 1999).

NICE CKS (2014) state that approximately 50% of acute pilonidal sinuses may become chronic, despite treatment.

**TREATMENT OPTIONS**

The treatment regimen will depend on the clinical presentation (Table 2). Individual assessment should be carried out and lifestyle should be considered when deciding treatment (Bannereje, 1999).

The anatomical location of the wound and its association with poor hygiene can lead to feelings of embarrassment. Patients may be concerned about recurrence and the risk of further infection. Meticulous healing and preventing recurrence, and washing after each bowel movement should be recommended (Harris et al, 2012).

NICE CKS (2014) acknowledge that the benefits of shaving are debatable, as studies surrounding hair removal are limited and based on postoperative patients.

If inpatient treatment is needed, on admission, baseline observations and medical history should be documented (Timmons, 2007). Pain needs to be managed carefully pre- and postsurgery (Stephen-Haynes, 2008), with patients being offered pain relief medication as needed (NICE CKS, 2014).

**Conservative methods**

A conservative approach is usually considered for patients presenting with mild symptoms. Antibiotics should be prescribed to combat infection, prevent sepsis and future surgery (Stephen-Haynes, 2008).

Where small, non-infected sinuses are present, clinicians in primary care with appropriate skills may remove the hair with forceps and clean out the track (NICE CKS, 2014).

A phenol injection can be administered into a non-infected sinus to sclerose and close it (Stephen-Haynes, 2008). This practice is diminishing, possibly due to the associated pain and the need for repeated injections (Bradley, 2006). This method has not been linked with effective results, however, Dogru et al (2004) identified a low recurrence of 5% with this method.

**Surgical interventions**

Broad spectrum antibiotics should be given before any surgical management where cellulitis or purulent exudate are present (Timmons, 2007).

Incision and drainage may be required for an acute pilonidal sinus, with excision of the pits at a later date once inflammation has subsided (Bascom, 1983). There is a high incidence of abscesses recurring with

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**Table 2: Symptoms and management of pilonidal sinus (adapted from Marza, 2013)**

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Asymptomatic</th>
<th>Symptomatic</th>
<th>Chronic</th>
<th>Complex or recurring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute</td>
<td>Pain at wound site</td>
<td>Pain at wound site</td>
<td>Pain at wound site</td>
<td>Pain at wound site</td>
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<tr>
<td></td>
<td>With or without malodorous discharge (pus and blood)</td>
<td>Discharge</td>
<td>Discharge</td>
<td>Discharge</td>
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<tr>
<td></td>
<td>Swelling</td>
<td>Multiple sinuses may be present</td>
<td>Infection</td>
<td>Infection</td>
</tr>
<tr>
<td></td>
<td>With or without cellulitis</td>
<td>Abscess</td>
<td>Abscess</td>
<td>Abscess</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inflammation/oedema</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>Antibiotic therapy if needed</td>
<td>Antibiotic therapy if needed</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Painkillers as required</td>
<td>Analgesics as required</td>
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<td></td>
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<tr>
<td></td>
<td>Monitoring</td>
<td>Surgery</td>
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<tr>
<td></td>
<td>Good personal hygiene (keeping the area clean and dry)</td>
<td>Good personal hygiene</td>
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<tr>
<td></td>
<td></td>
<td>Postoperative wound care</td>
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</tbody>
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(Figure 1: Pilonidal sinus)
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References: 1. SMTL method TM-404 for Free Swell Absorption and Retention. Test performed at SMTL, UK. Laboratory report 20140806-001.
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POSTOPERATIVE NURSING CARE

Regardless of which surgical procedure is undertaken, optimal postoperative care is vital for successful healing (Ajaz et al, 2007). An holistic wound assessment should be carried out and the psychological effect of the wound on the patient addressed (Bradley, 2006; Timmons, 2007). Strategies for assessing, managing and documenting pain with wound care should be applied (European Wound Management Association [EWMA], 2002).

Postoperative wound management

Postoperatively, infection can cause complications, resulting from bacteria in the tissue, or the close proximity of the wound to the anus which increases the risk of bacterial contamination, as hair in the periwound skin can collect faeces and debris (Harris and Holloway, 2012; Murphy and Powell, 2013).

The T.I.M.E. framework should be applied to assess wound tissue, inflammation, moisture levels and edges, and the effect that the wound might be having on the patient’s wellbeing should be observed, with all findings documented (Vuolo 2009).

The main aims of wound management are to (Timmons, 2007):
- Prevent infection
- Reduce the risk of sinus recurrence
- Promote healing from the wound bed
- Accelerate re-epithelialisation with good cosmetic results.

The wound should be observed for the following signs of infection:
- Malodorous discharge
- Increased volumes of exudate
- Friable granulation tissue
- Epithelial tissue bridging across the wound
- Cellulitis
- Increased pain
- Redness
- Raised temperature
- Delayed healing.

Some of these signs may also be indicative of inflammation while healing, so this needs to be considered when assessing the wound for infection (Stephen-Haynes, 2008).

Bradley (2006) suggested that the ideal dressings for patients with pilonidal wounds that are healing by secondary intention should be ones that are able to absorb exudate, prevent leakage and be easy to apply and remove without causing pain to the patient.

Stephen-Haynes (2008) recommended the following
dressing to manage pilonidal sinus wounds:
- Absorbent dressings — alginates/gelling fibres
- Cavity dressings — to keep wound edges separated to prevent dead space occurring
- Foams — to prevent leakage and infection
- Antimicrobial dressings — to reduce critical colonisation or where there is risk of infection
- Negative pressure wound therapy — where high volumes of exudate are present.

Due to the young age of this patient population, it is important that healthcare professionals inform and involve the patient in the dressing choice to enable and encourage them to continue their activities of daily living. Patient involvement and empowerment can help to lessen anxieties during the healing process (Tinsley, 2002).

Bradley (2005) reported that some patients with wounds healing by secondary intention stopped playing sport due to concerns about dressings slippage or sweating causing infection. Promoting self-care through regular, thorough washing and applying dressings can help to motivate patients in their care and to continue their normal activities (Bradley, 2006). It should be acknowledged that daily dressing changes for an open wound can be disruptive to a young person’s routine.

Pain levels should always be monitored and appropriate pain relief given. This is particularly important postoperatively and at dressing changes (Stephen-Haynes, 2008).

**CONCLUSION**

Pilonidal sinus is a benign disease mostly affecting the young, which can be extremely painful and debilitating. For symptomatic pilonidal disease, treatment may involve surgical intervention such as incision and drainage. The management of pilonidal wounds can be challenging, but with a systematic approach to wound care and involving the patient in their care to help prevent infection and recurrence of this painful disorder, positive results can be achieved. Treatment should not prevent patients from returning to normal activities of daily living (both social and work-related), which should be achieved as quickly as possible. Psychological care is as essential as nursing care when managing this disease. 

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**REFERENCES**


