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CASE REPORT

A hairy cavity: endoscopic therapy of a presacral recurrence of a complex pilonidal sinus

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Abstract

Background Recently, minimally invasive techniques to avoid radical excisions of the pilonidal sinus with long-lasting secondary wound healing were developed. We describe a rare case of an intrapelvic, pararectal recurrence of a pilonidal sinus, who was innovatively treated with flexible endoscopy.

Case presentation A 43-year-old Caucasian man presented with an intrapelvic, pararectal recurrence of a primarily widestretched pilonidal sinus, originally located in the sacrococcygeal region and spreading laterally to the gluteal region and intrapelvic to the presacral area. No connection to the bowel was evident. Up until presentation in the endoscopic department, a total of five attempts of surgical resection were performed, always confirming the diagnosis of a pilonidal sinus. Endoscopic therapy consisted of a combination of debridement, laser ablation and endoscopic vacuum therapy. After completion of APC and VAC therapy, the patient irrigated the abscess cavity for a further 2 weeks with a rinsing syringe. The resulting deep scar at the gluteal fistula was resected after secondary wound healing was completed. Two years after the end of the therapy, no recurrence was evident.

Conclusion Flexible endoscopy is, with its multiple therapeutic applications, an effective tool even in very complex inflammatory fistula and abscesses. Correctly indicated, it is with its minimally invasive character an excellent alternative to open surgical approaches.

Keywords Hairy cavity · Endoscopic therapy · Complex pilonidal sinus

Background

Pilonidal sinus is a common disease and affects an estimated 26 per 100,000 persons [1], occurring primarily in young adults with a 3:1 male predilection. Known risk factors include family history, local trauma, sedentary work and obesity [2]. It usually occurs after puberty, when sex hormones are known to affect the pilosebaceous gland and change healthy body hair growth. Initially, 50% of patients first present with a pilonidal abscess that is cephalad to the hair follicle and a sinus infection. Pain and purulent discharge from the sinus tract is present in 70–80% of cases and are the two most frequently described symptoms. In the early stages, preceding the development of an abscess, only cellulitis or folliculitis is present.

The most frequent location of pilonidal sinus is in the sacrococcygeal area. Other locations are extremely rare. Unexpected locations of pilonidal sinuses were described as follows on the penis, on the scalp, on the abdomen, on the neck, in the groin and in the axilla [3] and on the nasal dorsum [4], whereas differential diagnoses, such as dermoid cysts (teratoma) or hidradenitis suppurativa, have to be ruled out before treatment.

Recently, some authors have described minimally invasive techniques to avoid radical excisions with long-lasting postoperative infections and secondary wound healing [5, 6]. In the so called endoscopic pilonidal sinus treatment (EPSiT) technique, a rigid fistuloscope is used to identify the tract, remove the hair and to cauterise the epithelium and

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granulation tissue. A systematic review of the current literature concluded that these techniques show promising results but need to be validated in larger prospective trials [7]. A similar technique is used in a complex perianal fistula, sometimes combined with endoscopically placed vacuum assists [8].

However, irrespective of the used method, a significant rate of patients develops a recurrence of a pilonidal sinus after resection (approx. 5–20%) [7, 9, 10].

We describe the case of a 43-year-old man with a flexible endoscopic treated recurrent pilonidal sinus at 15 cm from cutis in the presacral and pararectal tissue.

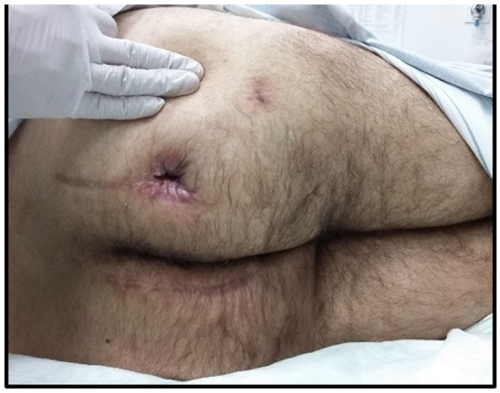

Fig. 2 Condition before minimally invasive therapy

Case presentation

We report an unusual case of a 43-year-old man with an intrapelvic, pararectal recurrence of a primarily widestretched pilonidal sinus, originally located in the sacrococcygeal region and spreading laterally to the gluteal region and intrapelvic to the presacral area. No connection to the bowel was evident (Fig. 1a, b). Up until presentation in the endoscopic department, a total of five attempts of surgical resection were performed, always confirming the diagnosis of a pilonidal sinus.

Due to the long-lasting purulent secretion and persisting pain, magnetic resonance imaging (MRI) of the pelvis was repeated, and a 4- × 3-cm large liquid mass was detected in the right pelvic region pararectal with a fistula to the skin in the right gluteal (Figs. 1c, d and 2).

Via the gluteal porus, exploration with a 5.6-mm flexible endoscope (GIF 160 XP, Olympus, Shinjuku, Tokyo, Japan) was possible, and through the angled fistula tract approximately 15 cm from the cutis, the 3- × 3-cm abscess cavity was entered. This cavity was macroscopically and microscopically lined with keratinised squamous epithelium filled with hair (Fig. 3a). The percutaneous access was extended from 6 to 12 mm by balloon dilatation and Hegar pins. With a standard gastroscope (GIF H 190, Olympus, Shinjuku, Tokyo, Japan) and Roth retrieval net® (OH, USA), the hair was removed. The squamous cell lining with hairs of the abscess cavity was completely ablated endoscopically with the Argon-Beamer (argon plasma coagulation, APC) in four sessions (Fig. 3b). Drainage and cleaning of the wound cavity were achieved by percutaneous vacuum therapy (VAC; KCI-Medical, San Antonio, TX) in six sessions over 3 weeks. After completion of the APC and VAC therapy, the patient irrigated the abscess cavity for a further 2 weeks with a percutaneous rinsing syringe. The resulting deep scar at the gluteal fistula was

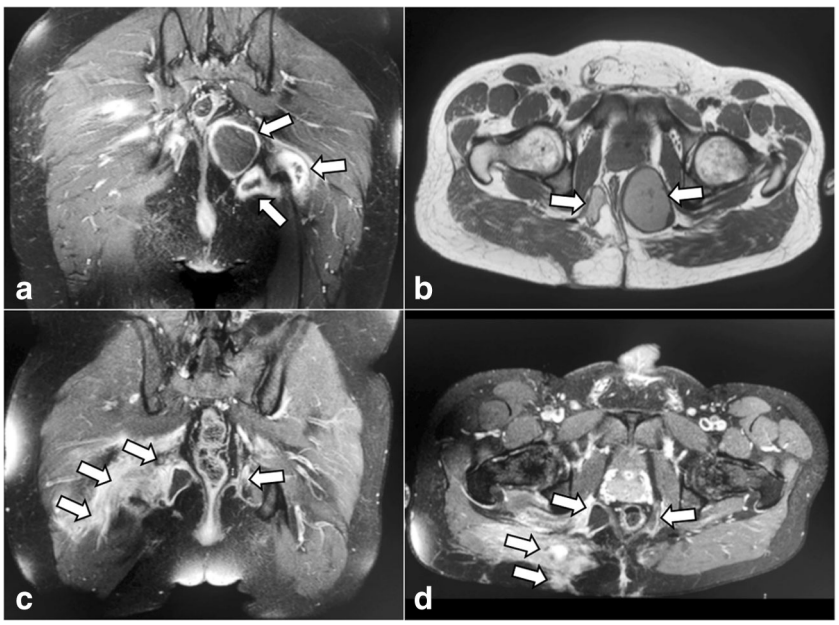

Fig. 1 **a**, **b** Primary MRI scan before surgical resection 2 years earlier. **c**, **d** Postoperative residual/recurrence before start of endoscopic therapy

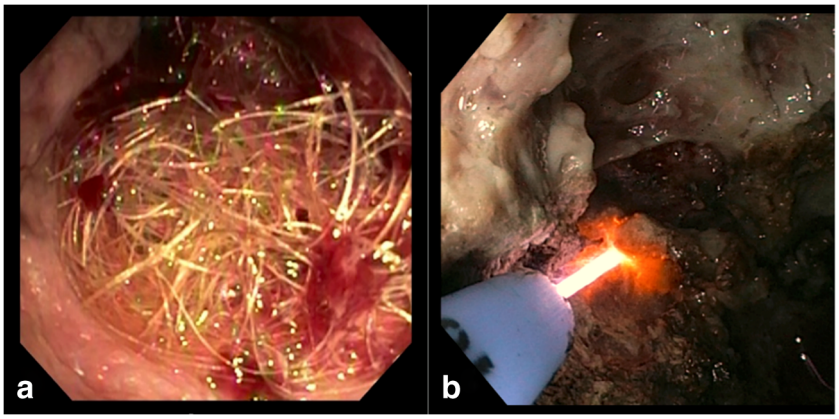

Fig. 3 **a** Pararectal abscess cavity filled with hair knot. **b** Complete ablation of keratinised squamous epithelium in the cavity with argon plasma coagulation

resected after complete secondary wound healing. In the follow-up of 24 months after the end of the therapy, no recurrence was evident.

Discussion

We report a case of a very rare intrapelvic pilonidal sinus that was successfully treated with minimally invasive technique. Less extensive techniques in the treatment of pilonidal sinus are developed to avoid the common morbidities of wound infections and secondary wound healing of the usually large resection defects, known as a risk factor for recurrent disease. These methods include limited excisions, pit picking, phenol and laser treatment [11]. The latter is used in rigid endoscopy, and increasing numbers of patients with sacrococcygeal pilonidal sinus are published with promising results [7]. Some authors are combining the methods, for example, using diathermy and phenol application to achieve complete ablation of the keratinised squamous epithelium [12].

However, due to the small number and the low quality of the studies of minimally invasive destruction, surgical resection remains the gold standard of sinus pilonialis treatment [11].

In this special case, with its pararectal localisation of the inflammatory residuum, we performed a flexible endoscopy and combined the ablative therapy with the increasingly used technique of endoscopic vacuum therapy [13]. Indications of endoscopic vacuum therapy are steadily broadened and range now from the treatment of perforations, anastomotic leakages to fistulae and abscesses in both the upper and lower gastrointestinal tracts [14]. Further technical innovations and developments of the vacuum devices optimise and individualise the therapy of the patients [13]. Notwithstanding the good published results of these therapies, it must be stated that no prospectively randomised studies of these methods exist.

In conclusion, flexible endoscopy is, with its multiple therapeutic applications, an effective tool even in very complex inflammatory fistula and abscesses. Correctly indicated, it is with its minimally invasive character an excellent alternative to open surgical approaches.

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