

Progressive pilonidal disease of the peri-clitoris: a case report, review and discussion

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Background

- Pilonidal disease is a benign chronic inflammatory skin disease characterised by trapped hair in the subcutaneous tissue¹
- It can manifest as a cyst, sinus, abscess or even fistula²
- It most commonly occurs in the sacrococcygeal region between the intergluteal folds³
- But can occur anywhere hair shafts can drive into the skin, such as axillae, umbilicus, scrotum, between fingers of hairdressers and the clitoris⁴
- Pilonidal disease involving the clitoris is rare with only 15 cases reported in the literature of varying presentations⁵
- We present a case of pilonidal disease of the clitoris that uniquely demonstrates the full spectrum of disease and successful surgical management

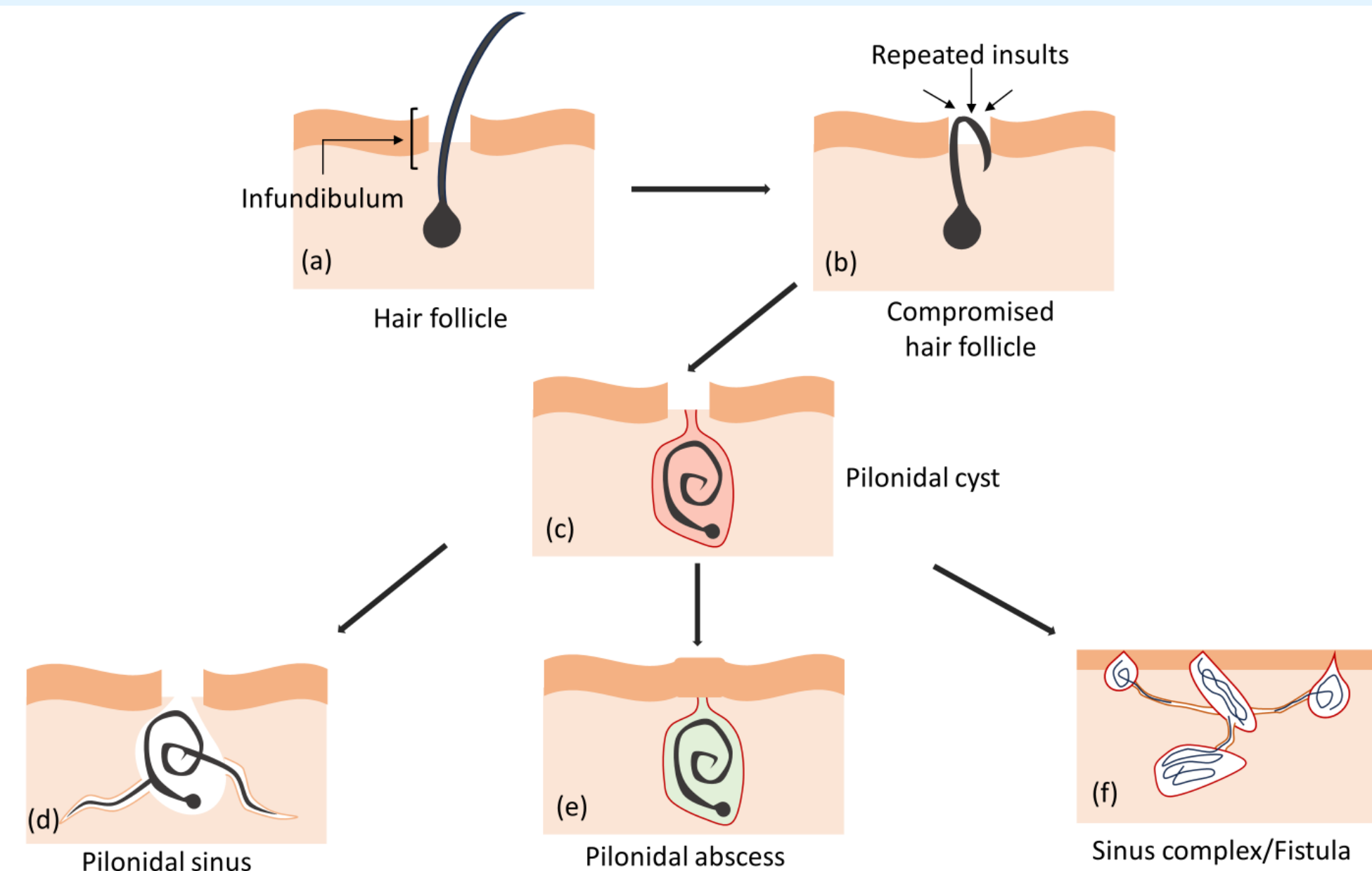


Figure 1: Pathophysiology and progression of pilonidal disease⁶

- Insults to the infundibulum of the hair follicle apparatus causes entrapment of hair and cellular debris
- A warm, moist and high friction environment draws more debris in, barbs of the shaft prevent hair falling out and the hair shaft begins to grow downward
- A pilonidal 'cyst' or 'pit' forms and begins a chronic foreign body inflammatory reaction, predisposing to repeated infections
- Pressure inside increases and the hair burrows through the tissue plane forming epithelised sinus tracts
- Blockage can lead to abscess formation
- Multiple nearby pits can communicate and form fistulous connections

Case

A 37-year-old (G2P1) dark-haired Caucasian female was reviewed for an inflamed genital cyst located just superior to the clitoral body. This had been initially treated with several courses of oral antibiotics by her general practitioner with no resolution of symptoms. This was the same site of a genital cyst that was treated successfully with antibiotics two years prior. Physical examination at the time showed a tender ~2 mm opening just above the clitoris. The impression at the time was non-healing folliculitis. She was discharged from the clinic with a course of trimethoprim-sulfamethoxazole with follow-up. An ultrasound two weeks later demonstrated an underlying sinus tract (Figure 2a). Follow up reviews showed no improvement with antibiotics and instead progression of disease. The punctum was now discharging purulent material with evidence of surrounding erythema. She was referred to the local plastic surgeons given the proximity to the clitoral structures and was put on their waitlist. Eight months later, the patient presented back to hospital with 2 days of increasing pain in the area with subjective fevers. She was admitted and treated with IV antibiotics. An MRI was done at the time (Figure 2b).

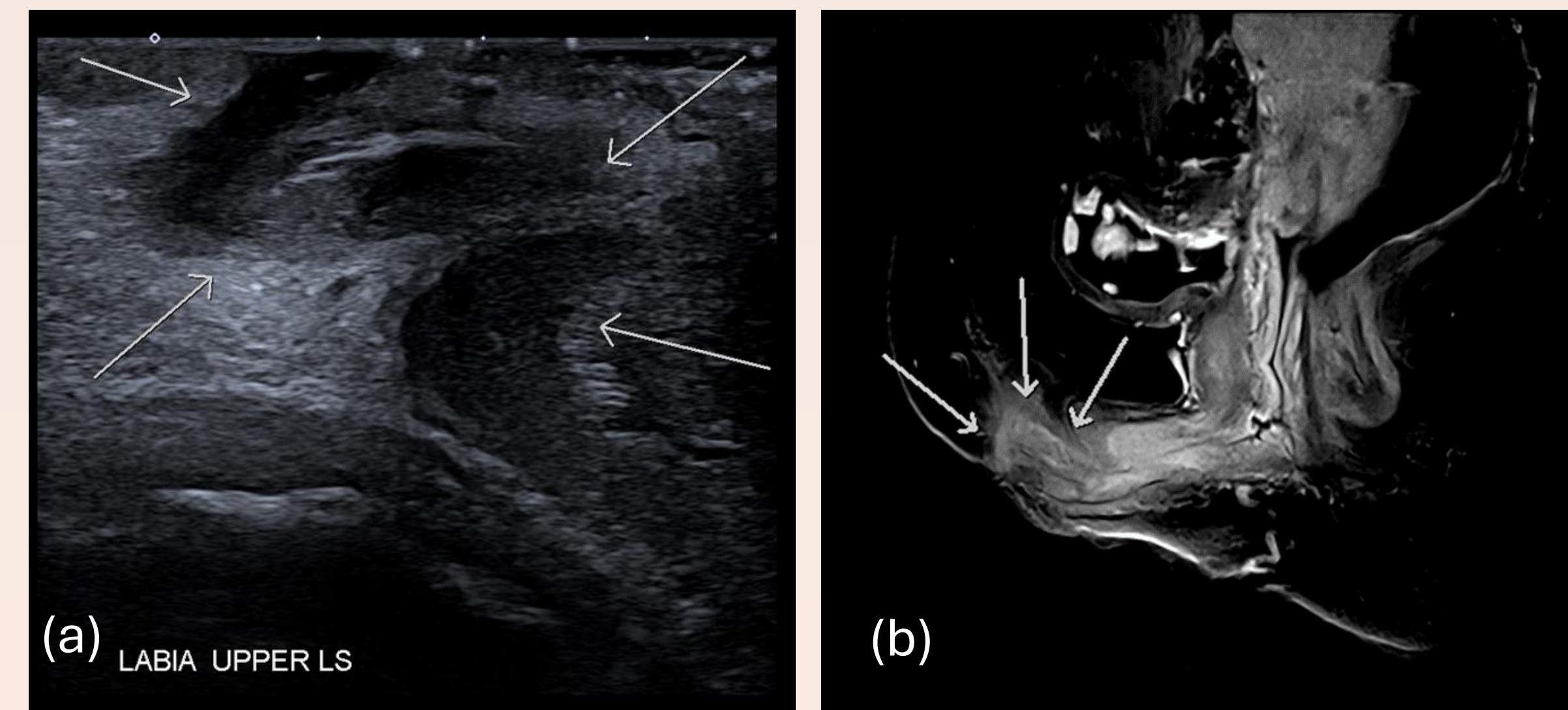


Figure 2: Pre-operative radiological images of the clitoral swelling

- Ultrasonography of clitoral swelling shows a 4 mm external opening to a tortuous sinus tract with a blind ending. A linear echogenic region could be seen suggesting possible entrapped hair
- MR pelvis post contrast study. T1 sagittal view shows enhancing walls of the sinus tract, 14mm in length and 2-3mm in diameter. Minimal fluid seen within

Operation

Exploration under anesthesia by the plastic surgeons revealed a 5x5 mm cutaneous opening on the lower right peri-clitoral mons pubis. A lacrimal probe was inserted to identify the direction of tract and kept in place to facilitate dissection. The area was carefully dissected along a 15mm sinus tract from the right side of clitoris proper, running in a deep subcutaneous plane parallel to clitoral shaft to a pinpoint opening just below the clitoral hood: essentially a fistula. The tract contained friable granulation tissue and 1 cm long shanks of hair protruding from under the clitoral hood (Figure 3a). The entire tract was dissected out, with care to preserve the clitoral gland and clitoral shaft (Figure 3b). Special attention was made to avoid damage to the dorsal artery and nerve of the clitoris. The resulting cavity was irrigated thoroughly with saline and partially closed with 4/0 vicryl sutures. The cavity was packed with Xeroform. The patient was followed up with weekly reviews and dressing changes. The area was allowed to close by secondary intention and had granulated well by the one-month mark (Figure 4). The excised tissue was sent for histopathology, which confirmed pilonidal disease (Figure 5).

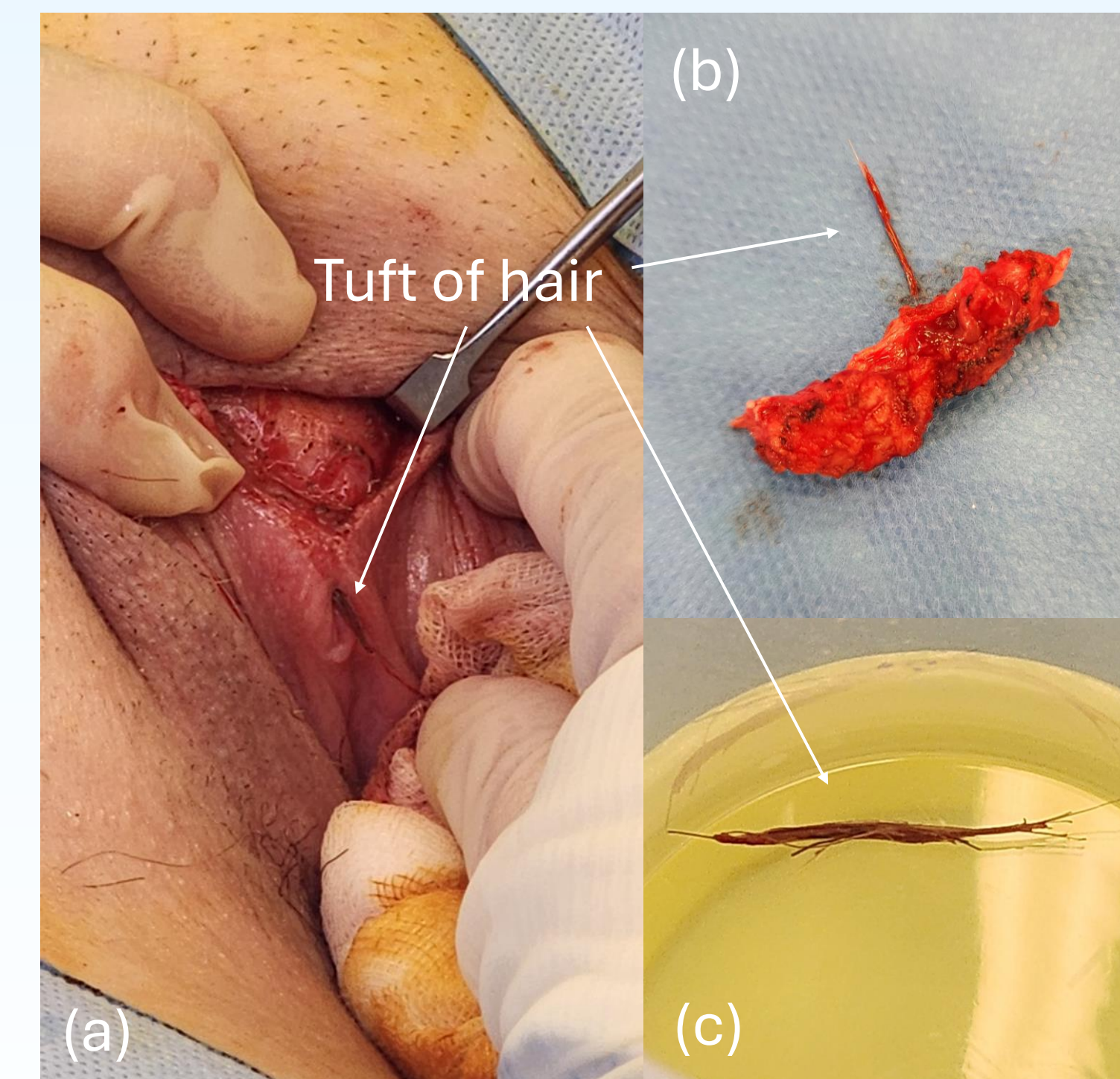


Figure 3: Intraoperative findings
a) Dissection around sinus tract. Tuft of hair protruding from cutaneous opening just under clitoral hood
b) Excised sinus tract with tuft of hair
c) Extracted hair tuft from sinus tract



Figure 4: Peri-clitoral region one-month after operation. Well granulated wound bed healing by secondary intention. There was no recurrence of disease

Discussion

- There are many differentials for clitoral swelling. More common causes can include: clitoromegaly, simple inclusion cysts and lichen sclerosis. Less common causes can include Crohn's disease of the vulvar, valvular endometriosis, valvular carcinoma and pilonidal disease⁷
- Pilonidal disease is widely accepted to be an acquired disease. It's pathogenesis involving the female genitalia may involve modern sexual and hair grooming practices, vulval secretions, the unique anatomy of the clitoral hood and rolling surfaces of opposing labia comparable to that of the gluteal cleft creating changes in tissue tension
- Risk factors for pilonidal disease relevant to our case are sedentary lifestyle or occupation, hirsutism, having coarse, curly hair, increased BMI, poor hygiene and past trauma to the area⁸
- Ultrasonography is a simple and non-invasive way to diagnose or exclude pilonidal disease⁹
- Antibiotics can treat acute infection, but without removal of the nidus of infection, recurrence is inevitable¹⁰
- Of the past 15 cases reported in the literature, all required excision of the insulting tissue (tract/cyst) to achieve disease resolution
- The clitoris is an essential organ for female sexual function. When operating in the region, special attention must be made for the delicate architecture, especially the dorsal artery and nerve of the clitoris which run along the body of the clitoris to supply the glans

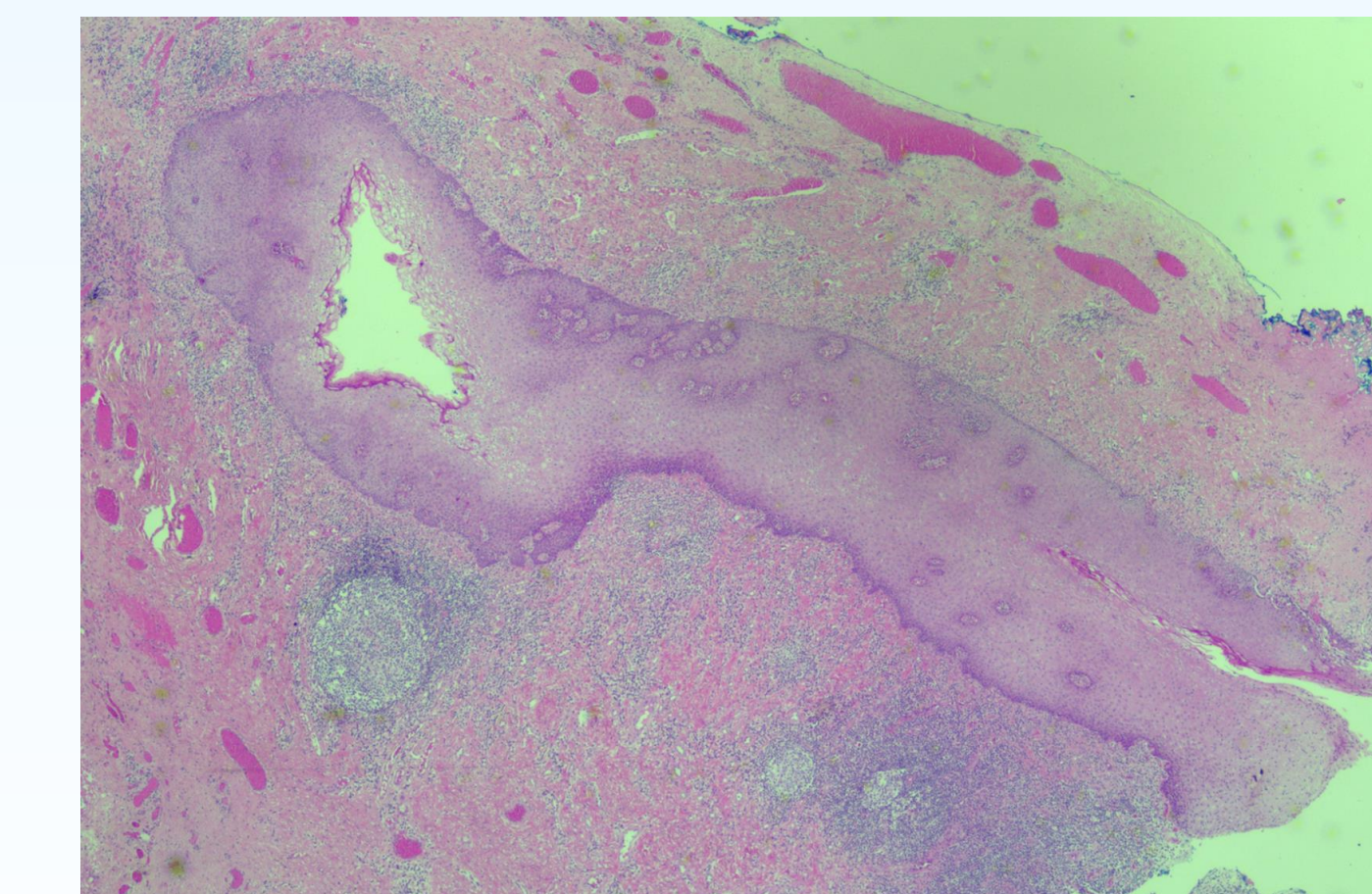


Figure 5: H&E stain of Sinus tract under x20 magnification, demonstrating a keratinising and non-keratinising stratified squamous cell lining. Classical naked hair shafts are not seen as they were removed intra-operatively

Conclusion

Pilonidal disease of the clitoris, though uncommon, can be a debilitating gynaecological disease if mismanaged. If recognised early, it can be easily treated with good outcomes.

References

