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An unusual lesion of the penis

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A 53-year-old uncircumcised man presented with a one-week history of a painful swelling on the ventral aspect of the corona of his penis. He had first noticed a nontender swelling in that region one month previously. He denied any urinary symptoms or urethral discharge. On examination the distal third of his penis was grossly swollen and tender, and the foreskin could not be retracted. There was no inguinal lymphadenopathy and tests for sexually transmitted diseases were negative. He was treated initially with intravenous antibiotics followed by local excision. The histology of the lesion is depicted in figure 1.

Figure 1 Haematoxylin and eosin stain

Figure 2 Periodic acid Schiff stain

Questions

- 1 What two abnormalities are shown in figure 1?
- 2 What is the diagnosis?
- 3 Which opportunistic infection (figure 2) may be associated with this condition?
- 4 In which other parts of the body has this condition been described?

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Answers

QUESTION 1

The histology shows inflammatory cells and foreign body giant cells characteristic of an abscess cavity containing hairs characterised by their stippled appearance and pigmentation with surrounding reactive fibrosis.

QUESTION 2

The diagnosis is pilonidal abscess of the penis which is due to infection in an existing pilonidal sinus. Pilonidal sinus of the penis was first described by Bervar *et al*¹ in 1968. Uncircumcised males between 20 and 60 years are affected, the commonest site being the region around the corona involving the foreskin. It is postulated that the coronal sulcus acts as a cleft where hairs may accumulate and are driven into the shaft of the penis and the prepuce by the natural movement that occurs between these two surfaces.

QUESTION 3

Actinomycosis infection has been reported to be associated with pilonidal abscess of the penis.² In our patient, histology also showed colonies of Gram-positive organisms with brightly eosinophilic club-like structures radiating around the periphery, characteristic of actinomycosis infection (figure 2). It is caused by a branching bacteria, *Actinomyces israelii*, a normal commensal of the gastrointestinal tract, associated with ulcer, sinus and abscess formation and rarely systemic disease, particularly in immunocompromised patients. The organism is sensitive to penicillin.

QUESTION 4

The natal cleft is the most commonly affected site; other sites where the condition has been described include the hand, axilla,³ perineum,⁴ amputation sites,⁵ umbilicus, the suprapubic region,⁶ and in women the clitoris.⁷ It predominantly affects young, dark-haired, hirsute white males, but does also occur in blonde hairless types.

Discussion

Pilonidal sinus was first described by Anderson in 1847⁸ although the term was coined by Hodges in 1880.⁹ Most authors agree that the

condition is acquired. The support for the acquired theory came from their occurrence in situations like the finger web in barbers, the axilla and amputation stumps, and the fact that it occurs at a later age than is expected of congenital lesions. No hair follicles can be demonstrated in the walls lining the sinus. Brearly¹⁰ postulated that the hairs burrowed into the skin by a process of twisting and drilling finally losing their follicular attachments.

Patients with pilonidal sinus of the penis commonly present with a history of discharging sinus, recurrent abscesses or a nonhealing ulcer, which may clinically mimic a neoplastic lesion. There may be a history of a previous pilonidal sinus involving another anatomical region. Inguinal lymph nodes are usually not enlarged but may be palpable due to super-added infection. Tests for sexually transmitted diseases are negative. Pilonidal abscess is an unusual cause of penile swelling and has to be differentiated from balanitis and carcinoma.

Actinomycosis associated with pilonidal sinus of the penis is extremely rare and there is only one report of this in the literature.² In our patient a cavitated lesion measuring 3 x 2 cm containing pus and hairs was excised; he would not consent to circumcision. Infection with *Actinomyces* was diagnosed on histology. Culture of the pus swab failed to grow any organism. The patient was commenced on long-term penicillin and the wound healed. However, his prepuce remained thickened and could only be partially retracted; circumcision was performed three months later from which he made an uneventful recovery and remains symptom free one year later.

Clinicians need to be aware of this condition occurring in patients presenting with unusual lesions on the penis and, if suspected, pus should be collected in a sterile tube (a swab is usually insufficient) and inspected in good light for the presence of pin-sized 'sulphur granules'. On microscopy the granules are seen to consist of Gram-positive mycelia. It is possible to make the diagnosis on histology alone. If diagnosed early and treated with local excision and circumcision together with long-term penicillin, the prognosis is excellent and morbidity from recurrent sepsis can be avoided.

Pilonidal sinus of the penis
<ul style="list-style-type: none">● rare● uncircumcised males between 20 and 60 years affected● site: around the corona involving the foreskin● presentation: discharging sinus, recurrent abscess, non-healing ulcer● association with actinomycosis infection● differential diagnosis: balanitis, sexually transmitted diseases, carcinoma● treatment: local excision and circumcision together with appropriate antibiotic therapy● prognosis: excellent

Box 1

<i>Actinomyces israelii</i>
<ul style="list-style-type: none">● anaerobic, Gram-positive branching bacteria● normal commensal of the mouth and gastrointestinal tract● causes chronic inflammation and multiple loculated abscess cavities with induration and sinus formation● common sites affected: cervicofacial (70%), right iliac fossa (20%), lungs (10%)● spread: direct contact and via bloodstream● diagnosis: microscopy and culture of pus (characteristic 'sulphur granules' in pus)● treatment: prolonged course of penicillin/tetracycline/lincomycin

Box 2

Final diagnosis

Actinomycosis associated with pilonidal abscess of the penis.

Keywords: actinomycosis, pilonidal cyst, penile disease

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Facial swelling in a patient with sarcoidosis

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A 50-year-old woman was referred with a six-week history of shortness of breath on exertion, and swelling of her arms and face. Thirty months earlier, an incidental chest X-ray had shown right hilar and mediastinal lymphadenopathy with clear lung fields (figure 1). She was a nonsmoker whose cousin had recently been diagnosed as having pulmonary sarcoidosis. Heaf and Kveim tests had been performed and were negative.

She was followed up for one year in which time serial chest X-rays remained unchanged. At this point, a nasal biopsy was performed and was reported as showing 'numerous epithelioid granulomas consistent with sarcoidosis'. Once again, serial chest X-rays were performed which remained unchanged for a further 16 months. At the time of referral, she had been on prednisolone therapy (45 mg daily) for eight weeks. A fine needle aspiration of a supraclavicular lymph node performed the week before referral had been 'consistent with sarcoidosis'. Her chest X-ray on referral is shown in figure 2.

Figure 1 Chest X-ray 30 months earlier

Figure 2 Chest X-ray at time of referral

Questions

- 1 What are the two most likely underlying diagnoses?
- 2 How may the above two diagnoses be linked?
- 3 What complication has resulted in the swelling of face and arms?
- 4 Suggest two management options for this complication

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