Case reports

Crohn's disease involving the penis

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SUMMARY Perianal complications of Crohn's disease occur in 25–70% of patients but perineal and genital lesions are rare. Treatment is controversial and there is a risk of recurrent or persistent disease. We report two cases of Crohn's disease involving the penis, one with multiple scrotal urinary fistulae, partial destruction of the proximal urethra, and ulceration of the penile shaft; the other with metastatic cutaneous ulceration of the penile shaft. The second case is particularly unusual in that the patient presented at the VD clinic as a case of syphilis.

Case 1

This man first presented in 1959, aged 15 years, with iron deficiency anaemia and diarrhoea. Barium meal and follow through examination showed Crohn's disease affecting the distal 30 cm of the ileum; he was treated conservatively with iron and vitamin supplements. Five years later he relapsed and further barium studies showed extension of the ileal disease, and segmental involvement of the ascending, transverse and descending colon. A fissure *in ano* was also noted but rectal biopsy showed non-specific inflammatory features. He was treated with ACTH and six months later sulphasalazine was added.

One year later, in 1965, the fissure *in ano* recurred and a sacral abscess subsequently developed; this spontaneously discharged externally to be followed two months later by the development of a high level fistula *in ano*. The abscess and underlying cavity was deroofed and drained surgically; healing was slow and treatment with steroids and salazopyrin continued. Histology from the fistula showed acute and chronic inflammation, with multinucleate giant cells, many of which contained small granules of foreign material. No classical epithelioid granulomata were seen.

In 1966 his condition was complicated by osteoporotic collapse of all the lumbar vertebrae, as a

result of which his steroid dosage was reduced. The patient was subsequently lost to follow up but when readmitted to hospital three years later he was virtually moribund, weighed only 35 kg (77 lb) and had multiple perianal and perineal fistulae.

Approximately 20 fistulae were present, and one of these, a low fistula into the anal canal, had penetrated the root of the scrotum and bulb of the urethra, extending into the penile shaft (Fig. 1). This resulted in a 'watering-can' appearance of the scrotum during micturition. Sigmoidoscopy and barium enema confirmed rectal involvement, with multiple external fistulae, and biopsy from the edge of one of the perineal ulcers showed chronic inflammation with giant cell granulomata, consistent with Crohn's disease (Fig. 2). Rectal biopsy also showed classical sarcoid granulomata and stains for fungi and AAFB were negative. In addition, there was a palpable mass in the right iliac fossa and further studies showed extensive multiple segmental disease in the small bowel and colon, with a demonstrable ileosigmoid fistula.

In view of the extensive nature of the disease and poor general condition surgical treatment was considered inappropriate and, as a last resort, therapy with azathioprine 2 mg/kg was started, with dramatic results. There was a rapid symptomatic improvement, with weight gain, and in due course his perineal fistulae healed. The mass in the right iliac fossa persisted for some months, but this too eventually disappeared.

Despite this pronounced general improvement, however, two years later in 1971 the ulcerated lesion

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Fig. 1 Severe Crohn's ulceration extending through the base of the scrotum to destroy part of the penile shaft and urethra.

Fig. 2 Biopsy of perineal ulcer showing giant cell granulomatous inflammation. (H & E, original magnification $\times 360$)

at the base of the penile shaft had further enlarged, eroding some 2 cm of the penile urethra and shortly after this the patient developed subacute urinary retention due to urethral stricture. A urethrogram showed a long stricture of the proximal urethra, with multiple fistulae connecting to the perineal skin, and as attempted urethral catheterisation was impossible a suprapubic cystostomy was carried out. After cystostomy his condition improved and most of the fistulae healed. Azathioprine therapy was continued, the patient returned to full time work and remarried.

Twelve years later he remains in good health and has had no further relapses of his Crohn's disease, passing four formed motions daily. The perineal fistulae remain healed but the lesion at the base of the penis although considerably smaller, has not healed. Extensive strictures are present in the proximal and distal urethra so the patient continues with a suprapubic cystostomy. Recurrent small bladder calculi have been troublesome despite careful surveillance but the patient remains in good health and in full employment.

Case 2

This patient first presented in 1980 aged 24 years with watery diarrhoea, weight loss of 15.9 kg, abdominal, and anal pain and rectal bleeding. He also complained of painful mouth ulcers, a red left eye and raised tender nodules on his shins. On examination the anus was reddened, and there were oedematous anal skin tags. Rectal examination was painful, sigmoidoscopy showed a hyperaemic mucosa but no ulcers, and biopsy was deferred. Biopsy of a mouth ulcer showed non-specific active chronic ulceration but no granulomata. The provisional diagnosis was that of Crohn's disease, and treatment was commenced with ACTH, metronidazole, and intravenous fluids.

Three days after admission he developed a perianal and right ischiorectal abscess. This was drained surgically. A rectal biopsy was taken which showed non-specific inflammatory changes with ulceration. Treatment was continued with steroids, and salazopyrin was also added. A barium meal and follow through had shown a normal upper gastrointestinal tract and small bowel. His symptoms resolved and he was discharged.

He was readmitted three weeks later with worsening diarrhoea, and on examination was found to have an anal fistula which was leaking pus and appeared to communicate with the ischiorectal abscess. Barium enema showed severe total Crohn's colitis. His condition deteriorated, with intractable rectal bleeding; as a result of this panprocto-

colectomy and ileostomy, together with excision of the fistula, was done some three months after his initial presentation.

The excised colon showed classical confluent linear ulceration and a mucosal cobblestone appearance, these changes extending to within 16 cm of the pectinate line. There was an anal fistula. Histology confirmed Crohn's colitis, with the bowel showing fissuring ulceration, submucosal oedema and fibrosis, transmural inflammation, and epithelioid giant cell granulomata. The appendix showed similar inflammatory changes but the terminal ileum was normal.

He made an uneventful postoperative recovery, and treatment with steroids and salazopyrin was continued. Twelve months after colectomy his perineal wound started intermittently discharging: an attempt at primary excision and suturing was made, but the wound again broke down and he was left with a raw discharging perineum. Two sinuses at least 4 cm long extended from the perianal region to the sacrum/coccyx, and a sinogram showed a pre-sacral extension of some 8 cm. There were no fistulae. Since then his wound has partially healed with conservative therapy, and there is less discharge from the sinus. Plastic surgery with rotation myocutaneous flaps is, however, currently under consideration.

He presented to the Sexually Transmitted Disease Clinic three years after his colectomy with a 10 day history of painless penile ulceration. His regular sexual partner was his wife (he had been married for five years); he denied any other contacts including homosexual contacts, and had not been abroad recently. He had never travelled outside Europe. He had abstained from sexual activity since the onset of the ulcer and did not have any other genitourinary symptoms. There was no history of topical applications to the penis.

The ulcer had an indurated base, rolled margins, and was situated at the base of the glans adjacent to the coronal sulcus (Fig. 3). There was no significant inguinal lymphadenopathy. At this time there was perineal ulceration with perianal fistula, as described above.

The initial diagnosis was of primary syphilis; however, serological tests (VDRL, TPHA, FTA-ABS) were negative on several occasions, over 18 weeks, as were dark ground examinations of material from the ulcer bed. Other venereological tests to exclude specific infections were also negative (Chlamydia group CFT at one month, herpes culture $\times 2$, TB culture, smear for AAFB $\times 3$). Herpes CFT was positive in a titre of 1:32, consistent with past infection. Treatment was given for secondary infection, first with cotrimoxazole and

Fig. 3 Penile ulcer.

later with metronidazole. Because the ulcer did not resolve and as it had increased in size, biopsy was carried out three weeks later.

Histology showed an ulcer bed which contained inflammatory granulation tissue and several classical non-caseating epithelioid granulomata (Fig. 4). Stains for fungi, acid fast bacilli and spirochaetes were negative as was TB culture.

A diagnosis of metastatic Crohn's disease was made, and the lesion was treated with topical

Fig. 4 Biopsy from penile ulcer showing a well-defined epithelioid and giant cell granuloma. (H & E, original magnification $\times 360$)

steroids. Six weeks later it had almost completely healed. One year later there is only residual scarring with no evidence of recurrent ulceration.

Discussion

Specific anal lesions were not recognised by Crohn in his original paper, but the association was subsequently noted in 1934,¹ and they were comprehensively described by Morson and Lockhart-Mummery² who noted abscesses, sinuses, fistula, fissures and skin tags. These lesions not only complicate known cases of intestinal Crohn's disease, but may be the presenting feature and may precede overt involvement of the ileum and colon, in some cases by many years.³ Mountain⁴ documented seven cases with the additional feature of extensive perineal ulceration, four of whom were men. Three of the four showed scrotal involvement, two developed spontaneous perineal urinary fistulae, and one also had a metastatic ulcer at the base of the penis. Perineal ulceration is usually associated with severe gastrointestinal disease, and classically is exacerbated after anal surgery. The ulceration can lead to considerable destruction and distortion of the surrounding soft tissues, which in our first case resulted in loss of normal urinary function and necessitated a permanent suprapubic catheter. Urogenital lesions are also a feature of Bechet's syndrome, which may be associated with a non-specific colitis. As case 2 presented with oral ulceration (also a feature of Bechet's syndrome) this diagnosis was considered, but the gross and histological characteristics of the disease in the resected colon were clearly those of Crohn's disease.

Treatment of perineal and genital cutaneous Crohn's disease is controversial, and a number of therapies have been advocated in the past. These include excision, primary suturing, curettage, local chemical applications, steroids, cytotoxic drugs and immunosuppressive agents.^{4 5} Case 1 was treated with azothiaprime as a last resort, after reports of its successful use elsewhere in 1968. Response to treatment may be variable; as illustrated by our second case simple measures may prove rapidly effective.

The term 'metastatic' Crohn's disease refers to cutaneous ulceration with a granulomatous reaction, separated from the affected gut by normal intact skin. It was first described in 1959 by Parks, Morson and Pegum⁶ when it was noted in the submammary region of an elderly lady with extensive perineal and groin ulceration. Mountain⁴ subsequently described two further cases, one with a lesion on the anterior abdominal wall and one with an ulcer at the base of the penis. Initially the skin lesions were thought to

involve areas only where there was opposition of moist skin surfaces. Since these reports, however, many cases have been described involving sites such as the arms and legs and clearly this claim is now too restrictive.^{7 8}

Genital lesions have been described in both men⁴ and women.^{9 10} In addition to the penile lesions previously documented, there have been two reports of generalised thickening of the prepuce^{11 12} resulting in phimosis. Both patients required circumcision and histology of the foreskin showed classical sarcoidal granulomata.

Genital involvement by metastatic cutaneous Crohn's disease is said to be rare. A review of recent literature, however, has shown that genital lesions account for nearly half of the cases described which would suggest that they are not as uncommon as has previously been suggested.^{4 6 7-17}

Case 2 is very unusual because as far as we are aware, none of the other cases presented to a Sexually Transmitted Disease Clinic and because the lesion was initially thought to be primary syphilis, it was only after extensive and repeated negative tests that biopsy was undertaken and sarcoid like granulomata were identified in the base of the ulcer. Granulomatous inflammation is not a feature of primary syphilis,¹⁸ and, as stated above, serological tests were repeatedly negative. The balance of proof was against tropical sexually transmitted genital ulcer disease (chancroid, lymphogranuloma venereum and granuloma inguinale). The patient had never visited an endemic area,¹⁹ denied extramarital intercourse and showed an atypical clinical picture readily explained by a recognised complication of pre-existing disease. There was no response to cotrimoxazole but resolution with topical steroid therapy. The ulcers of chancroid are painful and non-indurated with associated pronounced lymphadenopathy or buboes in about half the cases. The local lesion in lymphogranuloma venereum is normally transient, superficial and overshadowed by regional lymphadenopathy with subsequent bubo formation; it is accompanied in most cases by positive serology within four weeks of onset. Granuloma inguinale causes painless indurated granulomatous lesions without regional lymphadenopathy.

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