Infectious osteitis pubis in an HIV seropositive female

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Abstract

We report a case of infectious osteitis pubis following a first trimester abortion in a female seropositive for the human immunodeficiency virus (HIV). Joint aspiration yielded *Pseudomonas aeruginosa* and the patient was successfully treated with oral ciprofloxacin.

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Introduction

Lower abdominal pain is a common complaint among women attending a genitourinary outpatient clinic. The differential diagnosis is large. We report an unusual case following termination of pregnancy in an HIV seropositive female who presented acutely to the Department of Genitourinary Medicine, St Mary's Hospital, London.

Case report

A 23 year old HIV seropositive Middle Eastern woman gravida 2, para 1 + 1, complained of a six week history of progressive suprapubic pain associated with difficulty in walking following a first trimester abortion under local anaesthetic. In 1988 she had been diagnosed HIV seropositive. Her only risk factor for infection had been a blood transfusion for anaemia associated with her first pregnancy in 1986. On presentation she was menstruating and denied having had sexual

intercourse or a vaginal discharge since the termination. She did not complain of any urinary or neurological symptoms. The termination had been performed abroad and the obstetric details were unobtainable. According to the patient, however, radiological investigations of the pelvis were carried out one week postoperatively because of persisting disabling pain; these, she had been informed, were normal. She had been treated empirically for pelvic sepsis with oral antibiotics but failed to improve.

Clinically she was distressed by the pain, pale and afebrile. Her gait was "waddling" and she required assistance when transferring from a chair to a bed. Abdominal examination revealed a palpable spleen and exquisite tenderness over the pubic symphysis. Abduction and flexion of both hip joints was limited because of severe pain. There were no focal neurological abnormalities. Vaginal inspection showed a bloody discharge from a normal cervix consistent with menstruation. Bimanual examination revealed a nontender, retroverted uterus. There was no cervical excitation or adnexal tenderness or masses. The rest of the physical examination was unremarkable.

Investigations revealed a hypochromic microcytic anaemia with a haemoglobin of 8.2 g/dl, normal electrophoresis, a neutrophil count of $2.1 \times 10^9/l$, a CD4 count of $260 \times 10^9/l$ and a mildly elevated alkaline phosphatase of 140 U/l. A pregnancy test was negative. The patient became pyrexial 48 hours after admission. A bacteriological screen, which included a high vaginal swab and three blood, urine, sputum and stool cultures, and urethral and cervical swabs for *Neisseria gonorrhoeae* and chlamydia antigen ELISA were negative. Findings on a bone marrow aspirate and biopsy revealed changes compatible with acute-on-chronic anaemia secondary to a combination of iron deficiency and HIV disease, and no malignant or other infective process was identified. Radiological examination of the pelvis revealed widening of the symphysis pubis and cortical erosion at both upper borders of the superior pubic rami, more marked on the left side (fig 1). An ultrasound scan of the upper abdomen confirmed an enlarged spleen to 15 cm and of the pelvis revealed a 3 cm inflammatory mass in the midline between the upper border of the symphysis pubis and the anterior wall of the bladder. The uterus was retroverted and normal in appearance as were both ovaries. Ultrasound-guided aspiration of the

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Figure 1 Destructive changes in the pubic symphysis

Figure 2 Improvement in changes shown in fig 1

symphysis pubis and adjacent mass was performed; cytological examination showed blood clot and fibrous tissue, no malignant cells were seen. Bacterial culture of the joint aspirate was positive for *P aeruginosa* which was sensitive to ciprofloxacin. Stains and cultures for fungi and mycobacteria were negative.

The patient was commenced on oral ciprofloxacin 750 mg bd and treated for six weeks. She was also given a course of metronidazole to cover the possibility of coinfection with anaerobes. Within a week of therapy there was a dramatic clinical response with loss of suprapubic pain and fever and an improvement in her ability to walk. A repeat ultrasound scan showed resolution of the inflammatory mass and she was discharged home. Six weeks later, she was asymptomatic, fully mobile, and radiological examination of the pelvis showed a pubic symphysis of normal width with cortication of the pubic rami (fig 2).

Discussion

To the best of our knowledge this is the first reported case of osteitis pubis following termination of pregnancy in which an infection could be directly implicated. We suggest that the abortion, carried out under local anaesthetic, was probably by vacuum aspiration. This may have been complicated by anterior wall perforation resulting in contiguous infection of the pubic symphysis and bleeding, exacerbating her preexisting anaemia. Patients with a retroverted uterus have a higher incidence of perforation than those with an anteverted uterus.¹ This is also the first description of infectious osteitis pubis in an HIV seropositive individual.

This patient presented with the classical clinical and radiological findings of osteitis pubis as first described in 1923 by Legueu *et al.*² These consist of suprapubic pain radiating to the thighs and exacerbated by walking or abduction of the lower extremities, an abnor-

mal "waddling" gait, pubic tenderness and x-ray evidence of bone destruction with separation of the pubic symphysis. The duration of symptoms prior to medical attention ranges from several days to 2 months.

Osteitis pubis is a well recognised postoperative complication of urological and gynaecological surgery with an incidence of 1% to 2%.^{3,4} It has also been reported following childbirth, trauma, strenuous physical exertion in athletes, IV drug use and rarely after other surgical procedures or nonoperative conditions such as abortion, prostatic abscess or pyelonephritis.⁴⁻⁶ Osteitis pubis refers to a painful inflammation of the anterior half of the pelvic girdle; however, its pathogenesis remains controversial. Three mechanisms have been suggested: trauma, impaired circulation and infection.⁷ Bacterial causes of osteitis pubis are being reported with increasing frequency as aspiration or biopsy and culture is performed more readily. Infection may result from haematogenous spread from other primary sites, most commonly in IV drug users⁸ and in conjunction with urinary tract or pelvic infections^{9,10} or extension from contiguous foci, usually related to penetrating trauma or surgery.^{7,11}

It is important to differentiate infectious osteitis pubis from non-infectious forms. Although the clinical presentation and radiological appearances are similar, the outcome is different, as the former, if untreated, is a progressive disease whereas the latter is usually self-limiting with symptoms lasting weeks or months.¹⁰ Aspiration or biopsy of the pubic symphysis to obtain material for culture is recommended to establish a definitive diagnosis and to institute appropriate anti-microbial chemotherapy, as illustrated in this case. Negative bacterial cultures should be cautiously interpreted as cases of "sterile osteitis pubis" may be due to anaerobic bacteria which are not isolated because of flaws in collection, transport or culture of specimens.¹²

Pyogenic infections are a well recognised cause of morbidity in HIV infected patients, including pseudomonal infections.¹³ This results from abnormalities in T-cell, B-cell and neutrophil function. *Pseudomonas aeruginosa* is the most common pathogen isolated from infectious cases of osteitis pubis. Other organisms such as *Escherichia coli* and *Staphylococcus aureus* have also been reported.¹⁴ Most patients with infectious osteitis pubis can be treated with antibiotics alone and do not require surgical debridement. In this case we chose oral ciprofloxacin because of the antibiotic sensitivity pattern, although we were aware that serious adverse events have been recorded with the use of this drug in HIV infected patients.¹⁴ Caution should be exercised in evaluating the adequacy of treatment based only on clinical criteria, as some patients may appear to improve clinically while showing a worsening radiological appearance.¹⁵

In conclusion, we suggest that osteitis pubis should be considered in a female presenting with pelvic pain and an abnormal gait, and

that the differentiation of infectious from non-infectious osteitis pubis is important. Coinfection with HIV in this case did not appear to alter either its clinical presentation, or clinical course.

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