

# ARTHRITIS OF HIP COMPLICATING OSTEITIS PUBIS

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Osteitis pubis is a self-limiting disease that seldom spreads beyond the pubic bones. On rare occasions it may spread to involve the hip joint or the vertebral column; only few such cases have been reported and it is the purpose of this paper to publish yet another such case and to summarize what is known of the hip-joint lesion.

## *History*

Osteitis pubis was first described in 1923 by Legueu and Rochet. Since the introduction by Millin of retropubic prostatectomy the incidence of osteitis pubis appears to have increased. Although osteitis pubis is a mild and self-limiting condition, metastatic spread may occur at a late stage. Survey of the recent literature has shown the following reported cases of arthritis of the hip following osteitis pubis:

Resulting from suprapubic prostatectomy Kretschmer and Ockuly<sup>1</sup> (1935) report 1 case, Silver<sup>2</sup> (1941) 2 cases,

and Friedenburg<sup>3</sup> (1950) 1 case; and following retropubic prostatectomy Milson and Rose<sup>4</sup> (1957) report 1 case.

Vertebral osteomyelitis following prostatic surgery is likewise a rare complication, and was reviewed by De Feo<sup>5</sup> (1954).

## *Aetiology*

Batson<sup>6</sup> demonstrated a pathway for the spread of infections of the vertebral column and hip joint. He injected thorium dioxide into the dorsal vein of the penis in cadavers and animals and noted that the usual course was through the prostatic plexus of veins, along the vessels of the lateral pelvic wall, into the common iliac vein on either side, and so into the inferior vena cava. With abdominal pressure, however, the material soon passed into the vertebral system, and finally entered the cranial cavity. Surgical interference with the prostatic bed and any pelvic infection create an excellent opportunity for infection to spread to the pelvis,

spine and hip joints. Close and multiple venous connections also link soft tissue, pubis, ischium and hip. The primary osteitis pubis has occurred after the following conditions:

1. Urinary-tract infections—pyelonephritis.
2. Retropubic prostatectomy and transurethral prostatic resections.
3. Abdomino-perineal resection for carcinoma of the rectum.
4. In women, normal delivery and symphysiotomy after a difficult labour.
5. In women, total cystectomy and cystopexy for stress incontinence.

The most generally accepted theory is that infection in the prevesical space involves the periosteum of the anterior pelvic girdle, leading to osteomyelitis. Further spread to the hip joint and vertebrae occurs *via* the pelvic veins.

#### Case Report

Mr. B., 50 years old, was admitted to the Johannesburg General Hospital on 14 October 1958 with irreducible prolapsed piles. A pyrexia of 100°F was present and the white blood count was 1,205 per c.mm. Despite intensive antibiotic therapy, including penicillin, streptomycin and sulphatriad the pyrexia persisted, and the w.b.c. count rose to 18,000 per c.mm. On the 4th hospital day a large mass presented, rising above the pubis, which was extremely tender. An operation was performed on the 7th hospital day and a large pelvic abscess was drained, the origin of which was not clear.

The subsequent progress was stormy with swinging temperature and no response to a wide range of antibiotics and cortisone. A large ischio-rectal abscess developed as well as widespread inflammatory reaction in the region of the thigh extending to the knee. These required extensive drainage. The pyrexia and leucocytosis persisted.

On 19 December 1958 the patient first complained of tenderness over the symphysis pubis, and radiographs taken showed the osteitis pubis. At this time the general condition of the patient had improved and physiotherapy was ordered. In March 1959 limitation and pain on movement of the left hip was first complained of.

#### X-ray Appearances of Osteitis Pubis (Figs. 1-5)

The earliest changes are slight cortical erosions of the pubis adjacent to the symphysis pubis or inferior pubic rami. This is followed by irregular superficial destruction extending to involve the main portions of the inferior rami and ischia. Bilateral symmetrical generalized demineralization of the pubic bones and ischia may follow.

In the late stages separation at the symphysis pubis may take place, and dense deposits resembling sequestra are seen in both ischial tuberosities. Marked periosteal flaying and roughening of the ischial tuberosity may be seen. Eventually the involved bones become thicker and denser than usual, with obliteration of the symphysis produced by the fusion of the two pubic bones.

#### X-ray Appearances of the Hip-Joint Lesion (Figs. 1-5)

The appearance is essentially one of a septic arthritis, with steady, progressive erosive changes of the articular surface of the femoral head and the acetabulum. The joint space becomes narrower. Lytic lesions extend deeply until the acetabulum is enlarged and deformed. The femoral head may become eroded and flattened, and the neck thickened. All available information seems to identify the lesion as a pyogenic arthritis.

#### SUMMARY

1. In rare instances a destructive arthritis of the hip may follow urinary-tract operations or pelvic inflammation, being associated with osteitis pubis.



Fig. 1. Case Mr. B. 23 January 1959. Radiograph of pelvis showing normal radiological features.



Fig. 2. Case Mr. B. 26 February 1959. Narrowing of the joint space first noted at the left hip joint. Narrowing at the symphysis pubis now obvious with cortical erosions on either side of the symphysis pubis and along the inferior margins of the right and left ischial tuberosities.



Fig. 3. Case Mr. B. 13 March 1959. Further obliteration of the left hip-joint space, together with erosions into the left acetabulum.

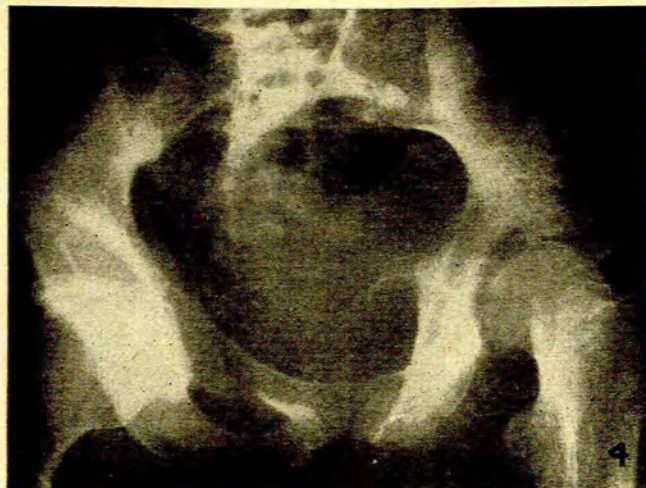


Fig. 4. Case Mr. B. 21 March 1959. Commencing fusion at the symphysis. Some healing of lesions at the ischial tuberosity.



Fig. 5. Case Mr. B. 5 June 1959. Septic arthritis at the left hip joint with dislocation.

2. The usual aetiology is chronic infection of the urinary tract, activated by surgical trauma.

3. Spread of infection can best be explained by transfer through soft and bony venous pathways between the anterior inferior pelvis and the hip.

4. The condition appears to be a purulent arthritis, directly related to a low-grade osteomyelitis of the pubis and ischium, and resistant to cortisone and antibiotic therapy.

5. A case is described.

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