TUBERCULOSIS OF THE PUBIS

Report of Eleven Cases

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Tuberculosis of the pubis is uncommon. It is not mentioned in text-books on skeletal tuberculosis by Girdlestone and Somerville (1952) or Sanchis-Olmos (1948), but a full account was given by Sorrel and Sorrel-Déjerine (1932).

Since the first reports by Thilesen (1855) and by Hennies (1888) over 150 cases have been recorded, the first in English being by Jackson (1923). A further fifteen appear in the English literature (Clairmont 1925, Bean 1930, Alpert 1939, Bevan 1955, Fairbank 1955, Read 1955) and Continental sources contain several more (Pytel 1935, Greger 1938, Ficai 1949, Clavel 1951). The largest series is that of Sorrel and Sorrel-Déjerine, with twenty-six cases.

The eleven patients described here were seen between 1937 and 1954, five at the Royal National Orthopaedic Hospital, London and Stanmore, and six at Middlemore Hospital, Auckland. They form the largest group so far reported in English.

CASE REPORTS

Case 1—A boy aged seven years was admitted in 1953. For about six weeks he had complained of pain in the right groin and limped. There was diffuse thickening over the symphysis but no palpable abscess. Radiographs showed extensive erosion of the body of the right pubis (Fig. 1).

Investigation and treatment—An inguinal gland biopsy was positive for tuberculosis. He was kept in bed, and streptomycin (0.75 gramme daily by intramuscular injection), para-aminosalicylic acid (8 grammes daily by mouth) and iso-nicotinic-acid-hydrazide (100 milligrams daily by mouth) were
given for three months. A high-tone deafness developed, and para-aminosalicylic acid and iso-
nicotinic-acid-hydrazide were given alone for a further three months. Progress—After seven months he was discharged on crutches but within one month pain had recurred

and he was readmitted. Radiographs showed calcified debris on the right and rarefaction of the
body of the left pubis. An abscess was present above the symphysis pubis, and although this was
aspirated on four occasions it continued to re-form.
Operation—A month later the affected area was curetted and the wound was closed. A small sinus
persisted for two months. After the operation para-aminosalicylic acid (8 grammes daily by mouth)
and iso-nicotinic-acid-hydrazide (100 milligrams daily by mouth) were given for three months and
the patient was discharged.
Further progress—Three years later he was symptomless and leading a normal life. Radiographs
showed no evidence of activity but slight upward displacement of the right half of the pelvis (Fig. 2).
No other tuberculous lesion was found.

Case 2—A man aged nineteen years was admitted in 1941 with a swelling in the left thigh. Five years
before he had been treated for pulmonary tuberculosis, and two years later had been in hospital
for a year for treatment of a swelling over the symphysis pubis. Aspiration had shown it to contain
tuberculous pus.
Radiographs showed erosion of the body of the left pubis extending laterally from the symphysis.
Treatment—The swelling in the left thigh was aspirated, yielding tuberculous pus. The abscess did
not re-form, and after eight months' conservative treatment the symphysis was fused by a rib graft.
No abscess was found.
Progress—The wound healed, and he was discharged after two months and resumed work after three
months. Seven years later the patient was symptomless.

Case 3—A man aged eighteen years was admitted in 1953. He had noticed pain in the groin for six
months after a fall when both legs were forcibly abducted. Three weeks before admission he had
noticed a swelling on the medial aspect of the right thigh. Radiographs showed almost symmetrical
erosion of the bodies of both pubic bones without sequestrum formation (Fig. 3).
Treatment—The abscess was incised and found to track deep to the adductors, and also superficially
up to the symphysis pubis. Through a suprapubic incision the affected area was curetted. The
suprapubic incision was closed and the abscess cavity packed. Tubercle bacilli were isolated from
the pus.
Progress—The suprapubic wound healed but a sinus in the adductor region persisted for five months.
After the operation streptomycin (1 grammie daily by intramuscular injection) and para-aminosalicylic
acid (15 grammes daily by mouth) were given for three months. An ischio-rectal abscess developed but soon settled after incision. Tubercle bacilli could not be isolated from it.

A year later the patient was symptomless even when doing heavy work. Radiographs showed no evidence of activity (Fig. 4). No other tuberculous lesion was found.

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**Case 3**—Youth aged eighteen years. Almost symmetrical erosion of both pubic bones

**Fig. 3**

**Case 3**—Nine months after drainage of the abscess and curettage of the lesion. Lesion quiescent.

**Fig. 4**

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**Case 4**—A man aged twenty-two years was admitted in 1948. Seven months before he had developed an aching pain in the suprapubic region, and later noticed a lump. This had increased in size until it had discharged pus through a sinus above the symphysis pubis. The patient had previously been treated for pulmonary tuberculosis and for tuberculosis of the left elbow. Radiographs showed a
Case 4—Man aged twenty-two years. Extensive destruction of body of pubis with large sequestrum.

Case 4—Sinograph showing widespread ramifications of the abscess cavity.

Case 4—Six years later. The lesion has healed but during the period of activity both pubic bones have become involved.
destructive lesion of the body of the left pubis and a large sequestrum (Fig. 5). Injection of the sinus with lipiodol showed the ramifications of the abscess (Fig. 6).

Treatment—One month later the abscess was opened, the dense scar tissue of the wall was excised and the sequestra were removed. The cavity was curetted and packed.

Progress—The wound healed slowly, a sinus persisting for twelve months. Five years later the patient was symptomless and was doing heavy labouring work. Radiographs showed that the infection had at some stage also involved the body of the right pubis, but there was no evidence of activity in either lesion (Fig. 7).

Case 5—Woman aged twenty-six years. Irregular erosion of body of left pubis and rarefaction of right pubis.

Case 5—A woman aged twenty-six years was seen in 1949. She had noticed pain in the pubic region for four months and this had been worse on standing. Radiographs showed irregular erosion of the left pubis and rarefaction extending laterally (Fig. 8). Two months later an abscess developed in the left labium.

Treatment—The abscess was aspirated and tubercle bacilli were isolated. After this a sinus persisted and about a month later the affected area was curetted and the wound closed. Streptomycin (1 gramme daily by intramuscular injection) was given for five weeks.

Progress—The wound healed and the sinus closed. The patient was discharged after six weeks but
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Three months later again developed pain, and six months after the operation she was readmitted. Radiographs showed that the body of the right pubis was also affected. The affected area was again curetted. The wound healed and the patient was discharged after two months. Streptomycin (1 gramme daily by intramuscular injection) and para-aminosalicylic acid (15 grammes daily by mouth) were given for three months after the operation.

Three years later the patient was symptomless, and radiographs showed bone bridging the symphysis. A year later she had a normal delivery of a full-term infant. Radiographs in 1955 showed bone trabeculation across the symphysis (Fig. 9). No other tuberculous lesion was found.

Case 6—A man aged twenty-four years was admitted in 1950. Two weeks before he had developed an aching pain in the left groin while working and had noticed a swelling. The pain became acute and he was unable to walk. On examination there was an abscess in the left groin and tenderness over the symphysis pubis. Radiographs showed a destructive lesion involving the bodies of both pubic bones without sequestrum formation.

Treatment—After rest in bed and leg traction for a month the abscess was opened and the affected area curetted. Tubercle bacilli were isolated from the pus. The wound healed and the patient was discharged after a month.

Progress—Six months later he was symptomless and there was no recurrence of the abscess. Radiographs suggested that the lesion was becoming quiescent. No other tuberculous lesion was found.

Case 7—A woman aged twenty-nine years was admitted in 1951. For several months she had noticed a nagging pain in the right groin, a feeling of weakness in the leg and a limb. Shortly before admission a swelling appeared in the right groin and extended into the labium majus. Aspiration had shown tuberculous pus. Radiographs showed a destructive lesion of the bodies of both pubic bones with sequestrum formation.

Treatment and progress—After rest in bed for two months and a course of streptomycin, the affected area was curetted and the sequestrum removed. The wound healed. Three years later the patient had no symptoms from the pubis and there was no recurrence of the abscess, but she was suffering from lupus erythematosus. Radiographs showed no evidence of activity.

Case 8—A man aged thirty years was admitted in 1937. Two years before he had been treated for tuberculous peritonitis. For eight months a swelling had been noticed in the left groin and for five months another swelling on the inner aspect of the left thigh. Three months before admission aspiration of the swelling in the groin had shown tuberculous pus. A sinus had formed and was still present. Radiographs showed irregular erosion of the bodies of both pubic bones, especially the left, with sclerosis at the margins. No sequestrum was present.

Treatment and progress—Operation was undertaken three days after admission. Through a suprapubic incision the affected area was curetted and swabbed with ether. The wound was closed. It healed but the sinus persisted. The discharge was much reduced after a second operation, two months after the first, when a small sequestrum was removed. Two years later he was symptomless but a small sinus persisted. Radiographs showed no evidence of activity.

Case 9—A woman aged thirty-six years was transferred from a sanatorium in 1949. She was under treatment for pulmonary tuberculosis and had developed a painless swelling above the symphysis pubis about one year before which had gradually increased in size. Radiographs showed irregular erosion of the bodies of both pubic bones, especially the right, and several small sequestra.

Treatment and progress—At operation a month after admission the swelling was incised and found to contain tuberculous pus. The abscess extended upwards from the symphysis pubis beneath the rectus abdominis muscle. The wound was packed. The patient was nursed on a plaster bed for six months, streptomycin (1 gramme daily by intramuscular injection) being given for the first month after operation. Three years later the patient was symptomless and there was no recurrence of the abscess. Radiographs showed no evidence of activity.

Case 10—A woman aged sixty-eight years was admitted in 1954. For about five months she had complained of a severe aching pain in the left groin when walking. This had increased in severity and she had been unable to walk for two weeks. She had not noticed any swelling. On examination there was a diffuse tender swelling above the symphysis. The patient had a marked limp and was unable to stand on the left leg because of pain. Radiographs showed a destructive lesion of the bodies of both pubic bones, with several small sequestra.

Treatment and progress—After two weeks' rest in bed, with streptomycin (1 gramme daily by intramuscular injection) and para-aminosalicylic acid (15 grammes daily by mouth), the whole of the affected area was excised, about half an inch of bone on each side of the symphysis being removed. The wound discharged for three weeks and then healed. Histological examination of the material removed at operation showed the appearances of tuberculosis. The patient was discharged eight weeks after operation and a year later she was symptomless.
Case 11—A man aged fifty-five years was admitted in 1949. He had noticed tenderness over the symphysis pubis for six months and had first noticed a swelling after slipping and striking the groin three months previously. Radiographs taken before his admission three months after the onset of symptoms showed erosion of the body of the left pubis with a small sequestrum (Fig. 10). Radiographs on admission showed further erosion.

Treatment and progress—The swelling was aspirated and was found to contain tuberculous pus. After four months' rest in bed the abscess was still present, so it was incised and packed. Healing was slow, a sinus persisting for twelve months. Three years later the patient was symptomless and had no recurrence of the abscess. Radiographs showed no evidence of activity and the lesion had remained unilateral. No other tuberculous lesion was found.

DISCUSSION

Clinical features. Age of onset—The ages of the patients in this group range from seven to sixty-eight years. Greger (1938) found reports of the disease in patients of from three to seventy years of age. Sorrel and Sorrel-Déjerine (1932) found that although the condition might occur at any age, it was rare in adults. It appears, however, that no age is immune or particularly susceptible.

Symptoms and signs—The insidious onset of symptoms is commented on by all previous authors, but the history is not necessarily long. In the present series it varied from two weeks to one year. Seven of the eleven patients complained of an aching pain in the groin, and in two cases this became severe enough to keep them in bed. Some irregularity of gait was commonly present because of the increased discomfort on weight bearing, but no patient complained of pain in the region of the sacro-iliac joint as might be expected if there was instability of the pelvis. The patient described by Bean (1930) complained of sacro-iliac pain, and backache as a symptom was mentioned by Alpert (1939).

The pain is less severe than that of non-suppurative osteitis pubis, and unlike the pain of that condition it is not usually severe when the patient is at rest. Local tenderness over the symphysis was a constant feature.

Abscess formation was present in nine of the eleven cases. The abscess may present above the symphysis, in the groin or in the thigh. Sinus formation had occurred only once before the patient was seen, and in this case the ramifications of the abscess cavity were
demonstrated after the injection of lipiodol (Fig. 6). The abscess was often found to be extensive at operation. There seems little support for the statement of Bevan (1955) that abscess formation is uncommon.

**Tuberculous lesions elsewhere**—Lesions elsewhere were apparent in only four of the eleven cases, and it has been noted by previous authors that this might be the only demonstrable focus.

**Relationship to injury**—Injury to the symphysis has been incriminated for all the conditions that affect that region, and a case of staphylococcal osteomyelitis was reported by Adams and Chandler (1953) as one of post-traumatic osteitis pubis. In Case 3 of this series the onset of symptoms certainly followed a local injury, and in Case 11 symptoms had begun three months after an injury. It may be that local injury determines the site of the lesion in patients who at the time have a tuberculous bacillaemia.

**Incidence**—Tuberculosis of the symphysis pubis is certainly uncommon, but it is likely that a number of cases are not correctly diagnosed. Sorrel and Sorrel-Déjerine (1932) had seen more cases of tuberculosis of the symphysis (twenty cases between 1920–30 and six cases before that) than of tuberculosis of the greater trochanter, and Read (1955) reported seeing four cases in eight years. Six of the present series occurred in seven years in an area in New Zealand where skeletal tuberculosis is not particularly common.

**Radiological features**—Erosion of the body of the pubis is constant, as also is some degree of rarefaction of the adjacent rami. The rarefaction is not as extreme as in osteitis pubis. The erosion may be unilateral or bilateral, and sometimes symmetrical, but it appears to start in the body of the pubis adjacent to the symphysis pubis and then to spread across the symphysis. Wheeler (1941), referring to osteitis pubis, stated that "it is inconceivable that infection would jump over the cartilaginous symphysis extending to an equal distance bilaterally," and Mortensen (1951), who is one of the few authors to mention tuberculosis in the differential diagnosis of lesions of the pubis, stated that the destruction is predominantly unilateral. This is, however, certainly not invariable.

Sequestration occurred in six cases, and in the remainder tuberculous debris was present. Sequestration is rare in osteitis pubis (Stutter 1954) but does occur when there is actual infection of the pubic bones.

**Differential diagnosis.** *Infections of the pubis*—Staphylococcal osteomyelitis (Dinan 1939) and osteomyelitis from bacillus coli, pseudomonas aeruginosa and bacillus proteus have been described (Wilensky 1938, Abrams, Sedlaczky and Stearns 1949; Lavalle and Hamm 1951) and may occur acutely or insidiously. The case of post-traumatic osteitis pubis described by Adams and Chandler (1953) seems to be of this group and not a separate entity. The diagnosis of these conditions depends on the isolation of the organisms from the pus if an abscess is present. The presence of a tuberculous lesion elsewhere favours the diagnosis of tuberculosis of the pubis, but the radiological appearances are not diagnostic.

**Osteitis pubis**—This term is now generally restricted to those cases which occur in men after suprapubic operations (usually prostatectomy) and in women after pregnancy, pelvic operations and trauma to the symphysis (Golden 1952, Wiltse and Frantz 1956). These cases are characterised by intense pain, but abscess formation does not occur. Radiographs show marked rarefaction of the pelvis on both sides of the symphysis pubis; sequestration is rare. The condition is usually ascribed to some vascular disturbance and may be associated with retropubic infection (Stutter 1954). Cases in which there is actual infection of the symphysis pubis have in the past been included in this group but comprise a separate entity.

**Adolescent osteochondritis of the symphysis pubis** (Burman, Weinkle and Langsam 1934)—This is an uncommon condition in which local pain and tenderness occur without abscess formation. Radiographs show irregularity of the margins of the symphysis pubis.

**Treatment**—Thilesen (1855) and Hennies (1888) successfully treated their patients by curettage. Sorrel and Sorrel-Déjerine (1932) advocated a direct attack on the lesion and stated that
sinuses will then close spontaneously. Radical excision is not required, though Clairmont (1925) stated that, in his experience, a wide excision of the soft parts and of the pubis was necessary.

Operation was carried out in all cases in the present series. In one patient the whole of the affected bone was excised (Case 10), and in another (Case 2) a bone graft was placed across the symphysis pubis. In the remaining nine patients the lesion was curetted and if an abscess was present it was drained.

Aspiration of the abscess would be indicated as a diagnostic measure or if there were danger of the skin's breaking down.

Bone grafting was carried out in only one case. Bean (1930), believing that his patient had osteitis fibrosa cystica, opened into an abscess cavity and then placed a tibial bone graft across the symphysis pubis. The graft subsequently sequestrated but the patient, who before operation had complained of sacro-iliac pain, lost his symptoms. Alpert (1939) believed that bilateral sacro-iliac fusion should be carried out in order to maintain stability of the pelvic ring. This was successful in one of his patients and failed in another who, however, was cured by curettage of the lesion and remained symptomless.

In none of the cases reported here did symptoms of pelvic instability develop after operation without bone grafting.

It has been stated (Greger 1938) that there would be little chance of parturition if the symphysis were fused. Parturition did, however, take place normally in Case 5, in which solid bony fusion occurred after two curettings.

There was little systemic disturbance in any of the patients, and, although periods of rest in bed were used in several cases, this does not seem necessary.

Antibiotics were used in six of the eleven cases; healing was complete in all these cases by the end of six months, and in four by the end of two months. In the patients treated without antibiotics, sinuses persisted for three years in one case (Case 8) and for one year in two cases (Cases 4 and 11). It is suggested that, in the absence of lesions elsewhere requiring more prolonged treatment, antibiotics be used only until the wound has healed.

**Results**—The duration of follow-up of the patients reported here varied from one to seven years, the average being three years. In all cases the lesion responded satisfactorily to treatment and the course of the disease did not seem to be particularly influenced by the use of antibiotics or by the presence of tuberculous lesions elsewhere.

The disease as seen in the patients in New Zealand does not seem to differ from that seen in England.

**SUMMARY**

1. Eleven cases of tuberculosis of the pubis are described.
2. The disease is often of insidious onset, and symptoms vary from vague discomfort to incapacitating pain in the region of the symphysis and the groin.
3. Abscess formation is common and was present in nine of the eleven patients when they first attended.
4. The lesion has a good prognosis and responds well to simple curettage.
5. In this series operation, without bone grafting, has not been followed by pelvic instability or back pain.

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