

Bone tuberculosis: The recurrence of the “old” clinical manifestations

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Abstract

The authors present 5 cases of bone and joint tuberculosis recently observed in their hospital: one case of spondylodiscitis, another of osteochondritis, another of synovitis of the knee, another of sacro-ileitis with spondylodiscitis, and another of arthritis of the

hip fistulating into the pelvic cavity. All these were negative to HIV1 and HIV2.

Key words: bone and joint tuberculosis, spondylodiscitis, osteochondritis, synovitis, sacroillitis, arthritis of the hip.

Introduction

The incidence of tuberculosis worldwide has increased in recent years, partly as a result of the progression of the AIDS pandemic.¹

Due to the development of multi-resistant forms of the disease, tuberculosis is today a major cause of concern, and is now considered by some as the second most widespread bacterial flagellum, from the point of view of Public Health.²

Although primarily considered a pulmonary disease, tuberculosis can affect nearly all the systemic organs, by lymphatic or hematogenous dissemination, during the initial pulmonary infection.^{3,4}

The clinical manifestations in osteoarticular tuberculosis are generally non-specific and insidious.⁴

The incidence of this form of disease declined significantly with the advent of antibacillary medical therapy⁵.

The reemergence of bone and joint tuberculosis today is associated with dramatic changes in its epidemiology and clinical manifestations.⁶

Case 1: J.A., female, aged 57, White, a farm worker.

The patient reported pain of the left lumbosacral junction, with evolution of around 1 year and worsening in the past month. She also reported fever, constitutional symptoms, and weight loss of around 10 kg. On objective examination, a scoliotic deformity was observed, with restricting pain of the dorsal lumbar spine that could be localized on objective examination.

The complementary exams showed: Hemogram normal; ESR 50 mm in the 1st hour, VDRL – neg, hemocultures-neg, KB test (urine and sputum) neg. HIV1 and HIV2 – neg. x-ray and of the chest and sacroiliac joints were normal. X-ray of the lumbosacral spine showed scoliosis on the right, with lengthening of the shadow of the left psoas muscle and narrowing of the 3rd, 4th and 5th disks, particularly in the left side. The patient was also submitted to lumbar CAT scan and MRI, which showed a spondylitis L4-L5 with disk degeneration, also showing an epidural abscess that was compressing the thecal sac and the roots of the horses' tail. The images also showed infiltration of the left psoas (*Fig. 1*).

The patient underwent orthopedic surgery for posterior fixation of L2 to L5. She received therapy with isoniazid (300 mg/day), rifampicin (600 mg/day), pyrazinamide (1500 mg/day) and ethambutol (1200 mg/day) for 2 months, maintaining, for the 4 subsequent months, isoniazid, ethambutol and rifampicin in the doses described. After the 4th month, and until the year of treatment, she received isoniazid and rifampicin in the same doses, with complete disappearance of the pain and constitutional symptoms.

In the imaging findings, there was evidence of disappearance of epidural abscess and infiltration of the psoas.

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Received for publication on 20th April 1995



FIG. 1

Case 2: M.C., female, aged 70, White, retired.

Patient reported constitutional symptoms, with weight loss of around 20 kg and suppurative supraclavicular swelling on the left, with evolution of 1 year; in the past month, she reported pleuritic pain on the right, and the appearance of a painless parasternal mass on the right, of around 10 cm in diameter.

On objective examination, the patient was pale and thin, with a supraclavicular scar lesion on the right side. She also presented a painless parasternal mass on the right, of around 10 cm in diameter, with fluctuation, adhering to the thoracic wall.

Analytically: Red cells 3,220,000/mm³, Hb 7,9g, Ht 26%, MCVgm 81m, ESR 114mm in the 1st hour, HIV1 and HIV2 negative.

Lung puncture of the parasternal mass was performed, in which *Mycobacterium tuberculosis* was isolated. KB tests of the sputum (direct and cultural exam) were negative. Chest x-ray showed residual images from the specific process. In the echography of the soft parts of the thorax, an extensive collection of liquid was visible, extending, either on the surface or at depth, to the 3rd costal cartilage and 2nd and 3rd intercostal space (5.9 x 5.5 x 1.7).

The patient began therapy with isoniazid (300 mg/day), rifampicin (600 mg/day), pyrazinamide (1500 mg/day) and ethambutol (1200 mg/day) for the first two months, followed by isoniazid and rifampicin to complete one year, in the same doses. There was a clinical improvement and the successive control CAT showed disappearance of the multiple abscesses.

Chest CAT showed multiple collections of liquid,

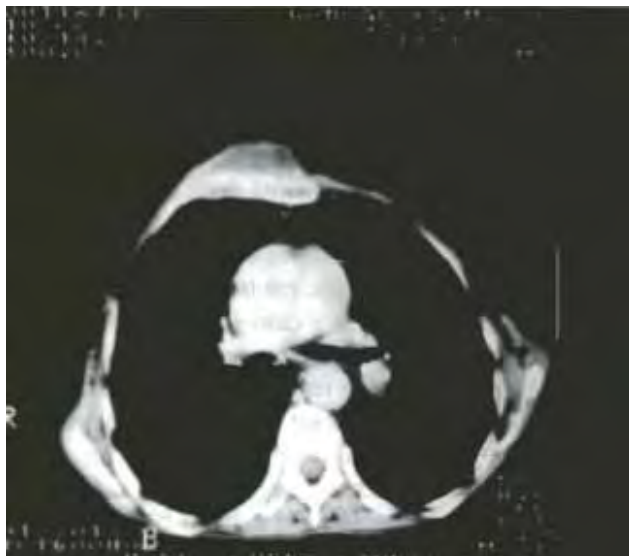


FIG. 2

one of them containing air, in the topography of the right parasternum (Fig. 2).

Case 3: E.C., female, aged 55, White, a housewife.

The patient reported pain in the right knee, with edema and progressive functional impotence for the past ten months. She had no fever or other complaints. From the objective point of view, she presented accentuated edema of the right knee, with restriction of all joint movements.

Analytically, the hemogram was normal, ESR 50 mm in the 1st hour, and HIV1 and HIV2 negative. X-ray of the right knee showed destruction of the cartilage and subchondral bone, and a cystic lesion with sclerotic halo. CAT scan of the knee showed a lytic lesion of the femoral epiphysis, and the presence of an abscess that was ossifluent to the muscle layers (Fig. 3). Synovial biopsy, showing chronic granulomatous synovitis with extensive caseous necrosis and numerous epithelioid granulomas with Langhan's giant cells.

Chest x-ray did not show any alterations, and BK test of the sputum was negative; *Mycobacterium tuberculosis* was isolated in the urine. Elimination urography was also performed, which revealed delayed excretion and secretion on the right, slight calyceal ectasia and urethrovesical narrowing.

The patient was medicated with isoniazid (300 mg/day), rifampicin (600 mg/day), pyrazinamide (1,500 mg/day) and ethambutol (1,200 mg/day) for



FIG. 3

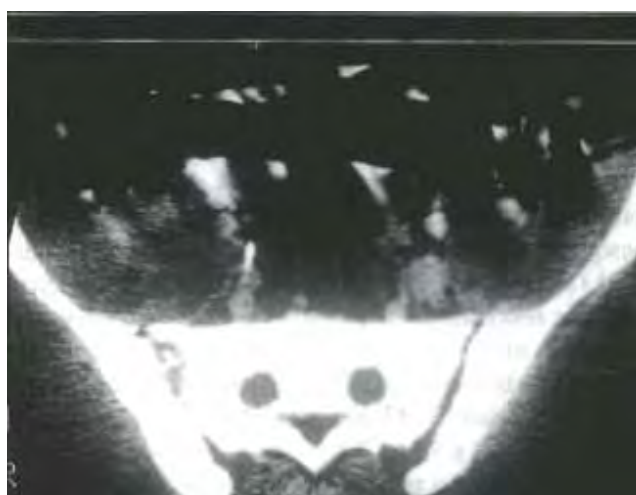


FIG. 4

two months, followed by isoniazid and rifampicin to complete one year, in the same doses.

A sequela of the process was major arthrosis of the knee joint, and the patient was scheduled for arthroplasty.

Case 4: P.S., male, aged 17, Black, a student.

The patient was addicted to endovenous drugs, and reported post-traumatism right coxalgia with nine months of evolution. In the last weeks prior to admittance, she reported worsening of the symptoms, with right-sided sciatic pain, fever in the evenings of around 38°C, night sweating, and weight loss (6 kg).

On objective examination, he presented right-side coxofemoral joint pain on movements of abduction and external rotation, with positive Lasegue's sign at 35°.

Analytically, the hemogram was normal, ESR 91 mm in the 1st hour, hemocultures negative, HIV1 and

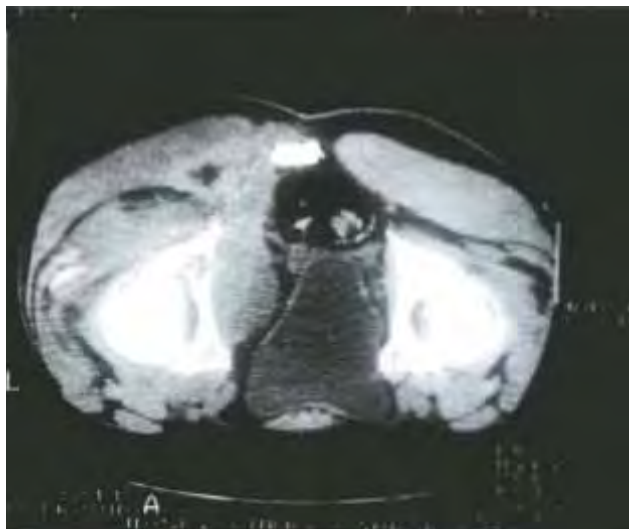


FIG. 5

HIV2 negative. AgP24 negative. Chest x-ray did not show any alterations. CAT scan of the lumbar spine and spleen showed a right sacroiliitis and ossifluent abscesses of probable tuberculosis origin (Fig. 4), lytic lesion of L4 and spondylodiscitis of L3.

Bone biopsy of the L4 vertebral body was negative. The patient was medicated with isoniazid (300 mg/day), rifampicin (600 mg/day), pyrazinamide (1,500 mg/day) and ethambutol (1,200 mg/day) for three months, followed by isoniazid and rifampicin to complete one year, in the same doses, with disappearance of the complaints. From imaging point of view, a progressive improvement was seen.

Case 5: V.F., male, aged 26, White, unemployed.

The patient was dependant on IV drugs, and reported left-side coxalgia with progressive functional impotence in the past six months, and constitutional symptoms, with weight loss of around 8 kg. In the past few weeks, he reported swelling of the left gluteal region, with pain and suppuration.

On objective examination, he presented a suppurating abscess of the left gluteal region, and diminished range of all movements of the coxofemoral joint.

Analytically, the hemogram was normal, ESR 80 mm in the 1st hour, hemocultures negative, HIV1 and HIV2 negative. Testing of the pus for *Mycobacterium tuberculosis* was positive.

CAT scan of the abdomen and pelvis revealed a collection of fluid surrounding the left side gluteal,

obturator, iliopsoas, and piriformis muscles, flowing freely into the coxofemoral joint cavity and extending to the posterior wall of the acetabulum and pelvic cavity, following the wall of the rectum and bladder.

Conclusion: arthritis of the left coxofemoral joint, with fistulization to the pelvic region (Fig. 5).

The patient was medicated with isoniazid (300 mg/day), rifampicin (600 mg/day), pyrazinamide (1,500 mg/day) and ethambutol (1,200 mg/day) and ciprofloxacin (1.5 g/day) for two months, followed by isoniazid and rifampicin in the same doses, until 18 months. Monitoring CAT scan showed progressive improvement, with disappearance of the fluid collection.

Comments

In all five patients, the progression of the disease was slow. At the time of admission, the patients presented evolution of the disease for 6 months or more, up to 1 year.

Although various clinical situations could be considered in the differential diagnosis, the final diagnosis was based on the results of the positive culture or histological finding of the bacillus, in three patients.

In the remaining two (case 1 and case 4) the imaging findings were, from the start, highly suggestive. The exclusion of other entities, and the favorable response to antibacillary treatment, were decisive elements for the diagnosis. *Mycobacterium tuberculosis* was not isolated in the sputum of any of the patients. There was one patient (case 3) in whom, besides the histological finding, the bacillus was isolated in the urine. The elimination urography carried out also showed impairment of the urinary system.

All the patients began therapy with at least four anti bacilli drugs, in the normal doses.⁶

In case 5, the intervention was focused to drainage of the abscess,⁶ but with the rapid response to the therapy, and the control of evolution with monthly CAT scans, surgery proved unnecessary.

Although the treatment was extended for 1 year in four patients, and 18 months in case 5, no patient presented toxicity or complications resulting from the therapy.

Although the therapeutic regimens for the treatment of pulmonary tuberculosis are, nowadays, more or less consensual, in cases of osteoarticular, meningeal, and miliary tuberculosis, the regimens tend to be more prolonged, their duration being determined on a case by case basis.⁶ ■

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