

Sacroiliac joint tuberculosis

Case report and bibliographic review

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ABSTRACT

Worldwide, tuberculosis is one of the main infectious causes of death, even though there is specific treatment. Sacroiliitis represents 10% of bone disease in tuberculosis, and it is still an entity of difficult diagnosis and controversial treatment. We present the case of a 40 year-old female who first shows low back pain associated with tumor and fever. After initial delay, diagnosis is made by aspiration-puncture and she receives pharmacological treatment. Familiarization with this condition will allow doctors to make early diagnosis and give early treatment. We discuss the onset of tuberculosis and auxiliary methods of diagnosis and treatment, and we present a bibliographic review of this condition.

Key words: Sacroiliitis; tuberculosis; treatment.

Level of evidence: IV

SACROILEÍTIS TUBERCULOSA. REPORTE DE UN CASO Y REVISIÓN BIBLIOGRÁFICA

RESUMEN

La tuberculosis es una de las principales causas infecciosas de muerte en el mundo, pese a que existe un tratamiento específico. La sacroileítis representa el 10% de la afectación ósea en la tuberculosis y sigue siendo una entidad de difícil diagnóstico y de tratamiento controvertido. Presentamos el caso de una mujer de 40 años, que comienza con dolor lumbar bajo, asociado a tumoración y fiebre. Luego de una demora inicial se llega al diagnóstico por punción biopsia. Recibe tratamiento médico. El conocimiento de esta enfermedad facilitará el diagnóstico temprano y su tratamiento. Se discuten la presentación clínica, los métodos auxiliares de diagnóstico y el tratamiento, y se presenta una revisión bibliográfica de la enfermedad.

Palabras clave: Sacroileítis; tuberculosis; tratamiento.

Nivel de Evidencia: IV

Introduction

Worldwide, tuberculosis (TB) is still one of the main infectious causes of death, even though it can be specifically

treated. It affects almost one third of the global population, mainly in developing countries. There are reports on 3-5% bone involvement in patients with TB. Ten percent of the harm of the skeletal system is that of the sacroiliac joint.^{1,2}

Conflict of interests: The authors have reported none.

The onset of sacroiliac TB varies, with non-specific symptoms such as back pain, gluteal pain or limp, what delays diagnosis. Patients not always suffer fever or lung disease, and they can show a psoas muscle abscess.¹⁻⁴

MRI is the study of choice for early diagnosis. The natural history of the disease ends in fusion of the sacroiliac joint.⁴

Risk factors include *i.v.* drug abuse, immunosuppression, pregnancy, traumatic injury and infection somewhere else in the body.^{5,6}

Although images are suggestive, for definitive diagnosis it is necessary to carry out aspiration puncture—diagnosis is confirmed with positive cultures of *M. tuberculosis*. The aim of this study is to report a case, to discuss the onset of TB and to conduct a bibliographic review.

Case

In September 2013, a 40 year-old female of Bolivian origin (she has lived in Argentina for 10 years), consults the Emergencies Department at our center due to a 20 x 15-cm tumor in the lumbosacral area, of elastic consistency and with erythema, associated with pain at rest and walking pain—9/10 in the visual analogue scale—and fever syndrome plus weight loss of one-year history. Upon admittance she does not show root symptoms or signs of neurologic deficit.

At the Emergencies Department she is evaluated by the Internal Medicine and the General Surgery Departments, who take X-rays and carry out aspiration-puncture for bacteriological culture. The patient continues with outpa-



▲ **Figure 1.** Patient's first evaluation (2013) with dorsal tumor.

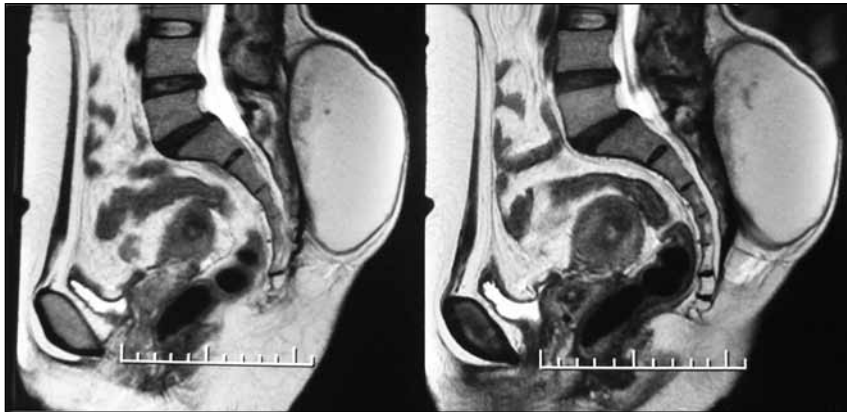
tient follow-up (Figure 1). The culture develops rifampicin and isoniazid-sensitive *M. tuberculosis*; therefore, the patient is prescribed specific antibiotic treatment (isoniazid and rifampicin) in November 2013.

In December 2013, she consults the Orthopedics Department's Outpatient Clinics at our center with imaging studies (X-rays, CT scan, and MRI) (Figures 2-5). The images show an extensive eroding lesion in her right sacroiliac joint. Both MRI and CT scan show an extensive collection at the lumbar-spine retrovertebral level in association with the tumor detected by physical examination (Figures 1-5). X-rays and CT scan do not show thorax disorders.

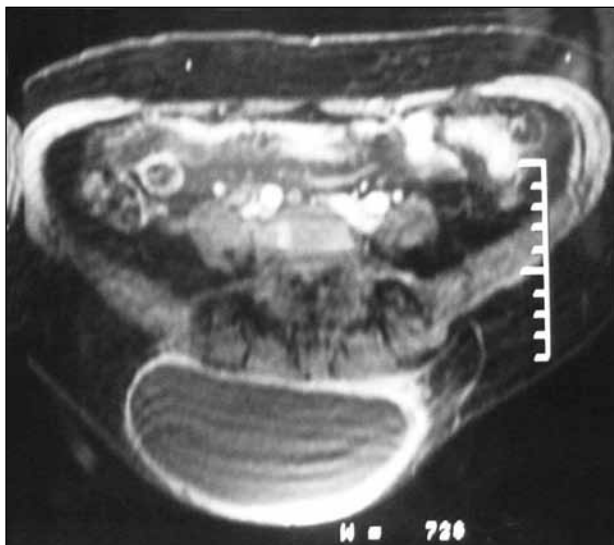
In March 2014, the case is presented at the Orthopedics Department's Grand Round to determine the treatment course. There are two therapeutic proposals: 1)



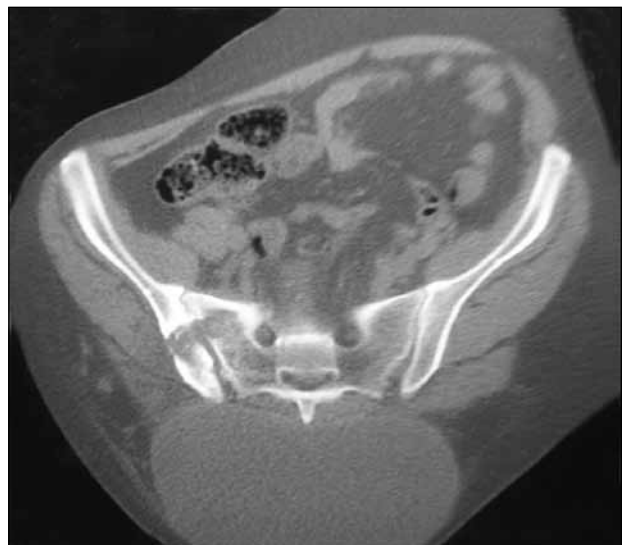
▲ **Figure 2.** Pelvis AP X-ray (2013) with right sacroiliac joint changes.



▲ **Figure 3.** Lumbar-spine MRI that shows retrovertebral tumor.



▲ **Figure 4.** Lumbar-spine MRI transverse section that shows retrovertebral tumor.



▲ **Figure 5.** CT scan showing unevenness in sacroiliac joints with left abnormalities.

L4-pelvis fusion¹ and 2) conservative treatment with (antibiotic treatment and) immobilization.^{7,8}

We choose surgical treatment, but due to some typical drawbacks to public hospitals, the patient undergoes pharmacological treatment with periodic evaluation (on a three-monthly basis during 18 months). She does with pain decrease—1/10 on the visual analogue scale—weight gain and disappearance of the sacral mass; what remains is just little pain at the compression of the right sacroiliac joint.

Figures 6 through 14 shows bone sclerosis in the right sacroiliac joint, and an image of remaining fluid at the sacral-retrovertebral level.



▲ **Figure 6.** CT scan showing osteolytic lesion in right sacroiliac joint.



▲ **Figure 7.** The patient 18 months after antibiotic treatment.



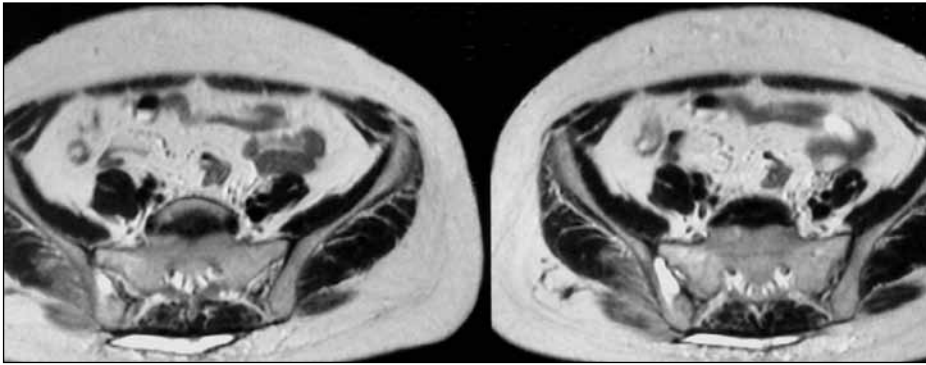
▲ **Figure 8.** Patient's lateral view 18 months after antibiotic treatment.



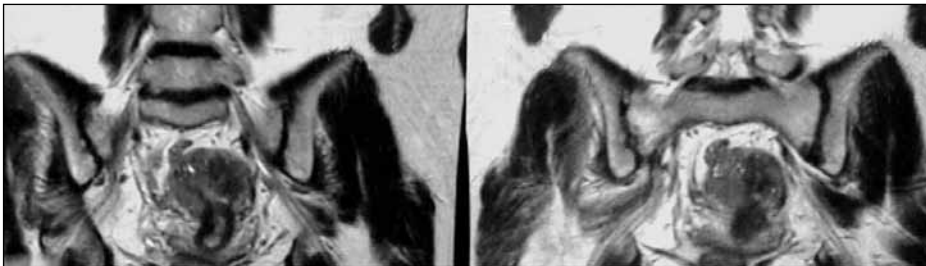
▲ **Figure 9.** Pelvis AP X-ray that shows sclerosis in the right sacroiliac joint with signs of fusion.



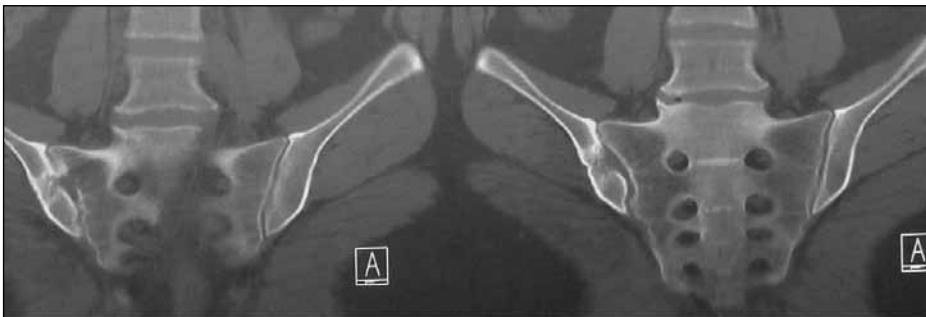
▲ **Figure 10.** Close-up of the sacroiliac region from the previous X-ray.



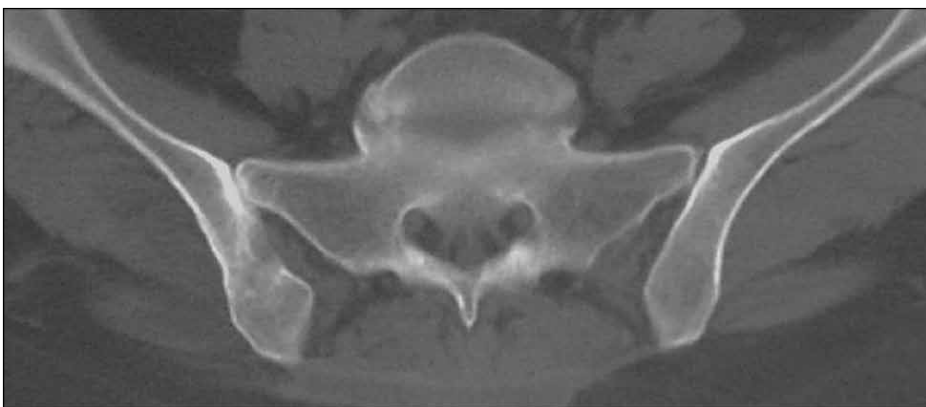
▲ **Figure 11.** MRI 18 months after specific antibiotic treatment that shows collection remains at prevertebral level. The sacroiliac joint shows decrease in the cystic lesion.



▲ **Figure 12.** MRI frontal section of the sacroiliac joint 18 months after specific antibiotic treatment that shows decrease in the lytic lesion, mild edema and signs of fusion in the right joint.



▲ **Figure 13.** CT scan frontal section at the level of the sacroiliac joint that shows decrease in the lytic lesion with underlying sclerosis signs.



▲ **Figure 14.** CT scan transverse section that shows sclerosis in the sacroiliac joint.

Discussion

The infection of the sacroiliac joint is infrequent and it is usually associated with some risk factor or an infection somewhere else in the body.^{3,4} Diagnosis is not easy and comes as a challenge for doctors, because they should suspect this condition in patients with risk factors, especially immunosuppression.¹⁻⁴

Kim et al.⁹ describe two surgical strategies— sacroiliac joint curettage at early stages or curettage plus fusion when, at later stages, instability is already suspected. They report good results in terms of pain relief.

Ahmed et al. published a report on 22 patients with sacroiliitis subject to surgery (11 treated with curettage and 11 treated with curettage plus fusion). Two patients had to be revised due to superinfection, three remained in pain, and two suffered complications associated with the surgical wound. The authors concluded that, for acute stages, curettage and debridement is enough, whereas in patients with chronic sacroiliitis, debridement is not so and patients should be subject to fusion. Healing rates at two-year follow-up were similar in both groups.¹

Shembekar and Babhulkar,⁷ and Watts y Lifeso⁸ preferred conservative treatment with immobilization and

specific antibiotic therapy, and got similar results at two-year follow-up.

In our case, those colleagues who chose the non-operative option did that way on grounds of the biomechanic limitation generated by lumbopelvic fusion, plus the technical difficulty and the potential risks of superinfection caused by common germs that such surgical procedure implies, especially when it comes to young patients.

With no surgical procedure but subject to pharmacological treatment, the patient's bone lesion improved (with subchondral sclerosis) and she recovered working capacity. She is still under antibiotic treatment six more months to cover the 24 months she has been set out to.

We conclude that the onset of this entity is unspecific; therefore, it requires strong suspicion so as to make early and accurate diagnosis. Both the patient and his or her environment should be subject to a multidisciplinary approach. Although treatment is controversial, at early stages pharmacological treatment can produce similar results at two-year follow-up, with medical improvement and progression to the joint fusion. Moreover, we acknowledge our poor casuistry, but given the scarce bibliographic references, we carried out a bibliographic review.

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