

# Acute Gonococcal Sacro-Iliitis – A Case Report

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## Summary

Acute infective sacro-iliitis is a rare condition. Though gonococcal arthritis is not uncommon, this organism does not appear to have been isolated from the sacro-iliac joint.

The first proven case of gonococcal sacro-iliitis is reported here. Difficulties in correct diagnosis of infective sacro-iliitis are highlighted. Management of gonococcal sacro-iliitis is described.

With the increase in number of gonococcal infections, a case can be made for routine culture of joint material *N. gonorrhoeae* in cases of septic arthritis in patients at high risk.

**Key Words:** Sacro-iliitis, Gonorrhoea

## Introduction

Acute infective sacro-iliitis is rare. *Staphylococci* and *Streptococci*, along with the recent advent of *Pseudomonas* among intravenous drug abusers, are the common pathogens. *Streptococcus pneumoniae*, *Proteus*, *Escherichia coli*, *Klebsiella pneumoniae* and *Enterococcus* have been reported in isolated cases<sup>1</sup>. Somewhat surprisingly, *Neisseria gonorrhoeae* has never before been isolated despite the increased incidence of gonorrhoea.

Infection is thought to spread to the joint by the haematogenous route. About a third of the patients have positive blood cultures. Pelvic infections provide a common primary focus in women. Microtrauma during pregnancy and labour can predispose the joint to infection.

A case history of the first documented case, to the best of our knowledge, of acute gonococcal sacro-iliitis is presented.

## Case History

V.S., a 21-year-old female of Afro-American origin

presented with severe right buttock pain of acute onset, noticed on waking and aggravated by movement. There was no history of injury but her job involved heavy work. She admitted to occasional mild pain in the same region over the preceding twelve months. There was no history of urogenital infection or sexually transmitted disease. There were no abdominal symptoms or change in bowel/bladder habits. Her menstrual periods were regular and she was menstruating at presentation. She was unmarried and sexually active but had a single partner since the previous year. She was unable to stand or walk.

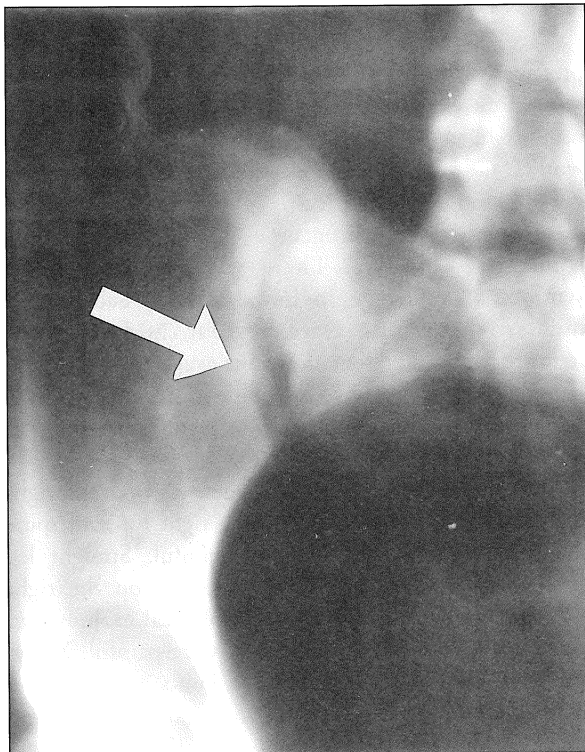
Examination revealed intense tenderness over the right buttock and lumbosacral spine. The right hip and spine movements were restricted and painful. Straight leg raising test was painful at sixty degrees on the right side and normal on the left. Neurological examination was normal. Sacro-iliac stress tests were painful. X-rays of the pelvis including sacro-iliac joints and hips and of lumbo-sacral spine were normal. An internal examination was non-contributory. The patient was afebrile. The white cell count was 14,000 (polymorphs 81%, lymphocytes 12%). The initial differential

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diagnosis included sacro-iliac strain and prolapsed lumbar intervertebral disc. The patient was admitted and bed rest, analgesics and non-steroidal anti-inflammatory agents were prescribed.

There was no improvement over the next few days. A repeat white cell count was 8,000 and the sedimentation rate was reported at 38 mm at one hour, significantly above normal. Chest X-ray, Rheumatoid Factor and Mantoux test were negative and serum chemistry was normal. Urinalysis revealed presence of numerous white cells and bacteria but cultures were negative. The patient remained afebrile. A bone scan was performed during the third week and strongly indicated an infective pathology in the right sacro-iliac region. Plain X-rays were repeated and a lytic lesion was seen in the inferior portion of the right sacro-iliac joint, about one cm in diameter (Fig. 1).

An aspiration of this cavity was attempted under radiological control unsuccessfully. Finally, four weeks



**Fig. 1: X-Ray 3 weeks after presentation. Arrow points at the cavity**

after presentation, an exploration and curettage of the lesion was performed. A posterior approach was utilised. About seven millilitres of thick pus gushed out when the cavity was opened. The cavity wall was thoroughly scraped and irrigated with antiseptic solution. Cultures were collected on swabs for aerobic and anaerobic organisms and material was inoculated onto specific culture media for fungi, acid fast bacilli and on Thayer-Martin/Chocolate Agar. The incision was closed over a drain which was removed after forty-eight hours.

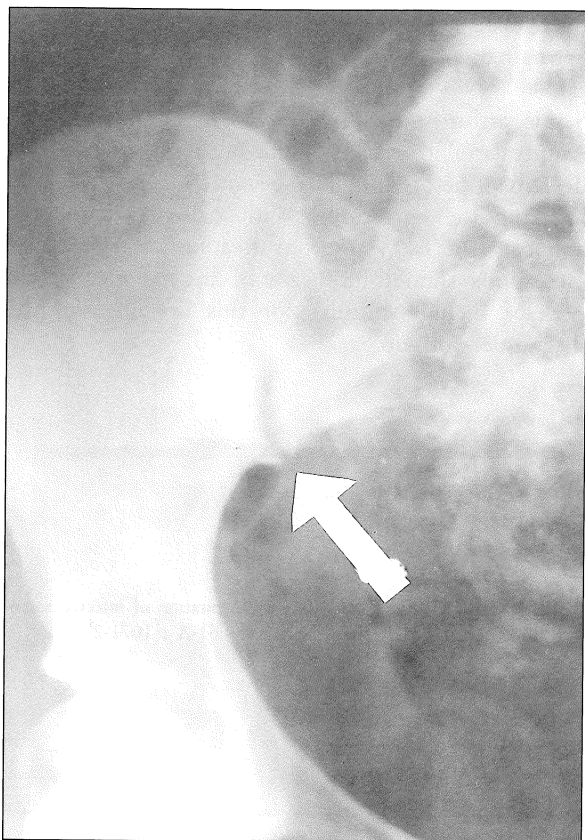
A pure growth of *Neisseria gonorrhoeae* was observed on Thayer-Martin/Chocolate Agar. None of the other cultures resulted in any growth. After this, urethral, cervical, rectal and throat swabs were sent off and the throat swab demonstrated presence of *N. gonorrhoeae*.

The patient was treated with a course of intravenous Crystalline Penicillin (ten mega units six hourly) for seven days followed by oral Ampicillin (five hundred milligrams six hourly) for a further seven days; after consultation with the Infectious Diseases specialist.

There was almost total relief from pain within seventy-two hours of initiation of therapy. The incision healed primarily. Two weeks later, straight leg raising was ninety degrees on both sides, hip and spine movements were near normal and sacro-iliac stress tests were negative. The patient was ambulatory with crutches. The white cell count was 4,700 and sedimentation rate came down to 29 mm at one hour. The patient continued to improve and was discharged four weeks after surgery, fully weight bearing.

She was asymptomatic two months after the operation and had returned to her previous occupation and activity level. The sedimentation rate was 15 mm at one hour (within normal limits). X-rays showed sclerosis in the affected part of the sacro-iliac joint and calcification within the cavity could be seen.

At one year, the patient had no symptoms. She was fully functional. The sedimentation rate was 18 mm at one hour. X-rays showed replacement of the cavity by sclerotic bone. The joint space was seen but there was formation of marginal osteophytes inferior to the joint (Fig. 2).



**Fig. 2: X-Ray 1 year after surgery.  
Arrow points at the osteophytes**

Two years after treatment, the patient responded by letter from her new address that she remained symptom-free and was functioning normally.

### Discussion

Since infective sacro-iliitis is rare, delayed and misdiagnosis is common. The misdiagnoses reported include sciatica, prolapsed lumbar disc, gluteal abscess, septic arthritis of hip, osteomyelitis of ilium, psoas abscess, appendicitis, pyelonephritis and retroperitoneal abscess<sup>2</sup>. Delays of a few days to a few weeks in making a correct diagnosis are common. Reasons for this include,

1. rarity of the condition in clinical practice
2. proximity of other structures which are more

commonly involved by disease conditions eg. hip, spine

3. absence of typical signs of infection due to the site being deep
4. vague and ill-localized symptoms
5. non-specific or negative radiological and laboratory findings in the early stage.

An elevated erythrocyte sedimentation rate is the most consistent abnormal test<sup>1</sup>. A bone scan is positive even in the early stage and can be valuable to rule out the diagnosis. C.T. scan and M.R.I., if available can provide a clue long before changes are seen on plain X-rays.

Aspiration for bacteriological confirmation is an excellent tool. The technique of aspiration under radiological control<sup>3</sup> is reported to yield a success rate of eighty-eight per cent versus only fifty-eight per cent by blind aspiration. An eighteen gauge spinal needle is inserted under image intensifier control, at an angle of forty-five degrees lateral to the sagittal plane and thirty degrees inferior to the transverse plane. If no material is aspirated, the joint is flushed with normal saline and the aspirate thus produced is sent off for culture. Unfortunately, as in this case, no aspirate may be obtained in spite of this.

It is also important to realise that even if a specimen is obtained, it may not yield any growth on culture. Delbarre, Rondier *et al* (1975), reviewed thirty-four cases and found that in seventeen of these, no organism had been isolated<sup>1</sup>. Dunn, Bryan and Nugent (1976) found no organism in six out of twenty-nine cases reviewed<sup>2</sup>. All organisms including acid-fast bacilli and fungi should be actively sought.

Various treatment regimes have been used in the past. These have ranged from bed rest and empirical antibiotic therapy to open biopsy/aspiration with administration of specific antibiotics. Empirical treatment is generally aimed at *Staphylococcus aureus* except in drug abusers where *Pseudomonas spp.* is also targeted and is only justifiable if no organism is identified in spite of all efforts. Surgery provides material for bacteriological study as well as an opportunity for thorough debridement. Primary closure appears safe. A spica is unnecessary.

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Antibiotic courses have varied from two to six weeks with suitable parenteral/oral combinations. The total period of therapy depends on the sensitivity of the isolated pathogen to the prescribed antibiotic and the specificity of the antibiotic. If a surgical debridement has been performed, a shorter regime of antibiotic therapy would suffice in contrast to only an aspiration where a longer regime would be necessary to ensure eradication of the infection.

Prognosis was poor in the pre-antibiotic era. It is excellent in the present times for cases diagnosed and

treated. Late sequelae are unusual. Ankylosis, even when it occurs, is asymptomatic.

Septic arthritis due to *N. gonorrhoeae* is common. Acute sacro-iliitis caused by this organism has not been described before perhaps because of difficulty in isolating the bacterium. With rising incidence of gonococcal S.T.D., surgeons treating acute infective sacro-iliitis should be aware of the possibility and perhaps include cultures for this organism in the diagnostic work-up.

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# Knee Arthrodesis with Interlocking Nail after Excision of Giant Cell Tumour of the Distal Femur

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