CASE REPORT

Septic sacroiliitis revealing an infectious endocarditis

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SUMMARY

We report the case of a 43-year-old man admitted for right hip ache and fever. Physical examination revealed a fever, an ache at the manipulation of the sacroiliac joint and a limitation of abduction and external rotation of the right hip. There was no murmur in cardiac auscultation. No anomaly was found at the conventional radiographs of the sacroiliac joint, while the pelvic MRI confirmed a right sacroiliitis. A sacroiliac puncture with a study of synovial fluid demonstrated the presence of *Streptococcus viridans*. The blood culture revealed the same germ. Transthoracic and transoesophageal echocardiography confirmed infectious endocarditis with vegetation in the mitral valve. He received penicillin G and gentamicin relayed by pristinamycin because of an allergy to penicillin G with a total duration of treatment of 40 days. His symptoms and the laboratory and radiological tests abnormalities resolved totally with no recurrence.

BACKGROUND

The diagnosis of infectious endocarditis (IE) is sometimes difficult. This is due to the occurrence of various clinical manifestations which may be revelatory and may induce a diagnostic and therapeutic lateness.

Thus, the IE is a veritable septicaemia which can be complicated of several secondary locations or immunological disturbances. The positive diagnosis is based on the results of blood cultures and transthoracic and transoesophageal echocardiography. Nephrological signs, embolic complications and rheumatological manifestations may be the first signs;¹ the cardiac murmur can be absent in 5% of cases leading to a diagnosis dilemma.

We report the case of a septic sacroiliitis revealing an IE in a 43-year-old patient.

The aim of presenting this case is to highlight the pejorative prognosis of septic arthritis complicating an IE if the diagnosis is not established promptly and to focus on the necessity of rapid treatment to avoid cardiac and articular complications.

CASE PRESENTATION

A 43-year-old man, having no special antecedents (he has not presented any wound in the past days or any dental caries, did not receive any injection and had no valve anomaly prior to this admission), was hospitalised for right hip pain and a fever evolving over a period of 2 weeks. Physical examination revealed a fever of 39°C, a tachycardia with a pulse rate of 100/min and a blood pressure of 120/60 mm Hg. Manipulation of the sacroiliac joint was painful. There was a limitation of passive

and active range motion of the right hip, especially abduction and external rotation. The cardiac auscultation did not objective a murmur. The abdominal, neurological and ophthalmological examinations were normal. There was no sign due to an embolic complication.

INVESTIGATIONS

Biological investigations revealed an inflammatory syndrome with a sedimentation rate of 70 mm and a C reactive protein of 100 mg/L. He had a normocytic normochromic anaemia (haemoglobin 11 g/dL) with a slightly elevated serum ferritin level evoking inflammatory origin, a hyperleucocytosis (white cell count 15 600/mm³) with an elevated count of neutrophils and a normal count of platelets. The blood creatinine level was 90 µmol/L and the proteinuria was negative.

The blood culture confirmed the presence of *S. viridans* on three occasions. The bacterial examination of urine, the Wright and Widal tests and the research of *Mycobacterium tuberculosis* were negative.

The conventional radiographs of the chest, sacroiliac joint (figure 1), vertebral column and hip joint did not find any anomaly.

While the analysis of pelvic MRI detected a reduced interarticular space with increased density and irregular aspect on the sacral side of the right sacroiliac joint suggesting in this context a septic sacroiliac joint (figure 2), the right hip was unharmed of anomalies.

The study of synovial fluid after doing a sacroiliac puncture confirmed the presence of *S. viridans* and an elevated count of leucocytes.

Figure 1 Conventional radiograph of the sacroiliac joint: no sign of sacroiliitis.

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Figure 2 Pelvic MRI reduced interarticular space with increased density and irregular aspect on the sacral side of right sacroiliac joint concluding to a right sacroiliitis.

The transthoracic echocardiography completed by the transeosophageal one, demonstrated a thick mitral valve accompanied with a vegetation of 9 mm of diameter and a minim mitral insufficiency.

TREATMENT

The patient was treated with penicillin G and gentamicin relayed by pristinamycin because of the occurrence of an allergy to penicillin G with a total duration of treatment of 40 days.

OUTCOME AND FOLLOW-UP

There was no recurrence of fever or hip pain. All the laboratory test abnormalities (inflammatory syndrome, anaemia, high-serum level of ferritin, hyperleucocytosis) resolved. A sacroiliac MRI and a transeosophageal echocardiography practiced 1 month later proved the disappearance of all the initial anomalies.

DISCUSSION

IE is a diagnostic and therapeutic urgency. The diagnosis is easy in case of a typical feature like prolonged fever associated with cardiac murmur or in the presence of favourite circumstances (immunosuppression, drug addiction).

Nevertheless, the lack of cardiac murmur accompanied by atypical signs (septic arthritis, glomerulonephritis, neurological complication, visual loss, etc) as the first manifestation of IE in an immunocompetent patient induced the clinician to arrive at a wrong diagnosis.

Arthralgia is the more common articular manifestation in IE. Arthritis is more rare and may be due either to a septic location of the septicaemia or to an immunological disturbance explained by the structure similitude of articular structures and infectious agents.¹ Septic arthritis, which is exceptional, occurs if there is a diagnostic lateness or an inadequacy of the prescribed treatment. IE can rarely be revealed by monoarthritis or oligoarthritis affecting the big joints or leading to spondylodiscitis or tenosynovitis. The diagnostic delay between rheumatological manifestations and IE diagnosis is from several days to several weeks.¹⁻³

The septic sacroiliitis was exceptionally published as a complication of IE. The diagnostic is oriented by clinical signs associating hip ache, limitation of the range of the hip's motion and

painful manipulation of the sacroiliac joint. Conventional radiographs demonstrate a reduction of articular space, a condensation of articular facets and osseous lysis. However, these radiographs may be normal in the beginning; therefore, a sacroiliac CT or MRI is required since they are more sensible. Only the joint puncture coupled to chemical and bacteriological study of synovial fluid permit to confirm the septic origin of the sacroiliitis and to adapt the treatment to the sensibility of the revealed germ. If the synovial fluid is sterile, a synovial biopsy is indicated in the research of septic origin of the arthritis.²

The IE has risked to be unrecognised in our patient not only because of the absence of cardiac murmur but also since all his clinical feature can be explained by an isolated septic sacroiliitis.

Indeed, according to many publications, the research of IE is compulsory once the septic sacroiliitis's diagnostic is performed even if this association is not frequent. Repeated blood cultures in habitual and special environment and transthoracic or transeosophageal echocardiography constitute together the key of IE diagnosis and must be realised shortly.⁴⁻⁵ This attitude allows one to avoid many severe complications such as cardiac deficiency, embolic or ischaemic incidents and various septic locations. Apart from septic sacroiliitis, other complications were eliminated in our patient.

Only a rapid and adapted treatment associated to a vigilant follow-up of the patient based on recurrent clinical examinations and the practice of oriented investigations are the guarantor of improving the IE prognosis.⁶ In the event of fever persistence or exacerbation of clinical and echocardiographical signs, germ resistance must be suspected. Then blood cultures should be performed again to readjust the treatment.⁷

The cardiac and articular prognosis in case of IE depends on the diagnostic precocity and the efficiency of the administrated treatment.⁶⁻⁷

Learning points

- ▶ Infectious endocarditis (IE) can be exceptionally revealed by a septic arthritis as a sacroiliitis.
- ▶ Conventional radiographs of the joint can be normal at the initial feature.
- ▶ An IE must be researched in case of a septic arthritis.
- ▶ The improvement of articular and cardiac prognosis depends on rapid diagnosis and adequate treatment.

Competing interests None.

Patient consent Obtained.

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