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Original article

Septic arthritis of the facet joint

Arthrite septique articulaire postérieure

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Abstract

Objective. – Septic arthritis of the facet joint is a rare clinical entity. We report 11 cases of facet joint infections diagnosed in our institution.

Patients and method. – Patients were identified via the computerized patients record (PMSI). Their features were collected and compared with published data.

Results. – The clinical symptoms are similar to those of infectious spondylodiscitis: back pain with stiffness (11/11), fever (9/11), radicular pain (5/11), and asthenia. Ten patients presented with lumbar infection and 1 with dorsal infection. An inflammatory syndrome was observed in every case. A rapid access to spine MRI allowed making the diagnosis in every case, and assessing a potential extension of infection (epidural extension 5/11, paraspinal extension 5/11). Blood culture (8/11) or culture of spinal samples allowed identifying the causative bacterium in every case and adapting the antibiotic treatment. The bacteria identified in our series were different from previously reported ones, with less staphylococci. The origin of the infection was found in 4 cases. Another localization of infection was observed in 4 cases. The outcome was favorable with medical treatment in 10 cases. An abscess was surgically drained in 1 case. None of our patients presented with neurological complications, probably because of the rapid diagnosis.

Conclusion. – Assessing the facet joint is essential in case of inflammatory back pain, and the radiologist must be asked to perform this examination.

Keywords: Septic arthritis of the facet joint; MRI

Résumé

Objectif. – Les atteintes septiques isolées des articulations zygapophysaires sont rares. Nous rapportons notre expérience de cette atteinte à travers une série rétrospective de 11 patients.

Patients et méthode. – Les dossiers ont été identifiés grâce au codage PMSI. Les caractéristiques des différents cas ont été colligées et comparées aux données de la littérature.

Résultats. – Les manifestations cliniques sont proches de celles des spondylodiscites infectieuses associant à des degrés divers douleurs rachidiennes plus ou moins latéralisées avec raideur (11/11), fièvre (9/11), radiculalgie (5/11), asthénie. Dix patients avaient une atteinte lombaire et 1 patient une atteinte dorsale. Le syndrome inflammatoire était constant. Un accès rapide à l'IRM rachidienne avec des coupes intéressant l'articulation a permis de poser rapidement le diagnostic dans tous les cas et d'analyser une éventuelle extension du processus infectieux (épidurite 5/11, pyomyosite 5/11). Les hémocultures (8/11) et les prélèvements locaux ont permis de préciser le germe et d'adapter le traitement antibiotique dans tous les cas. Notre série se distingue des données de la littérature par la diversité des germes incriminés. Une porte d'entrée a pu être identifiée dans 4 cas. Une autre localisation septique était retrouvée dans 4 cas. L'évolution a été favorable avec le traitement médical dans 10 cas. Le

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drainage chirurgical d'un abcès a été nécessaire chez un patient. Aucune complication neurologique n'a été rencontrée, probablement en raison d'un diagnostic précoce.

Conclusion. – En cas de rachialgies suspectes, l'étude des articulations articulaires postérieures est indispensable et doit être précisée au radiologue.

Mots clés : Arthrite septique articulaire postérieur ; IRM

1. Introduction

Cases of isolated septic arthritis of the facet joints (SAFJ) are a small proportion of all spinal infections. Only few series with few patients (< 10) have been published [1–10]. We report our experience through a retrospective series of 11 patients, to our knowledge the largest series published to date. Two of our cases were included in a previous publication [11,12]. We compared our data with previously published data.

2. Patients and methods

We identified patients managed in our unit for SAFJ from diagnoses recorded in the computerized record of patients database (French acronym PMSI) by searching for the main diagnostic code of infectious spondylitis (M463) since there was no specific coding for SAFJ from 2000 to 2013. We identified patients having presented with SAFJ proven by imaging (MRI) without any associated spondylodiscitis, and with documented bacteriological results. The demographic, clinical, biological, and iconographic data at diagnosis and response to treatment was collected for each patient. This data was then compared with previously published data.

3. Results

Eleven cases of posterior SAFJ were identified, accounting for 13.5% of all spinal infections managed in our unit during the study period, compared to 70 cases of infectious spondylitis.

The main characteristics of these patients are listed in Table 1. The mean age at diagnosis was 67 years (34–83 years) with 7 male and 4 female patients. All patients complained of back pain with stiffness: lumbar in 10 cases and dorsal in 1 case. The vertebra involved were L4/L5 in 7 cases, L5/S1 in 2 cases, L3/L4 in 1 case, and T10/T11 in 1 case. The pain was one-sided in 2 cases. Radiculalgia was noted in 5 cases. None of the patients presented with neurological deficit. Nine patients were febrile. Risk factors were noted in 3 cases: 1 case of type 2 diabetes, 1 of chronic alcoholism, and 1 of myelodysplasia. Five patients reported a history of chronic low back pain, and 6 patients presented with osteoarthritis of the facet joint on X rays. The average delay before diagnosis was 20 days and 12.8 days when ruling out tuberculosis.

Standard X rays performed initially did suggest any sign of an infectious disease. Technetium 99 m (99mTc)-labeled bisphosphonate scintigraphy was performed in 3 patients, showing increased uptake of the joint involved in every case (Fig. 1).

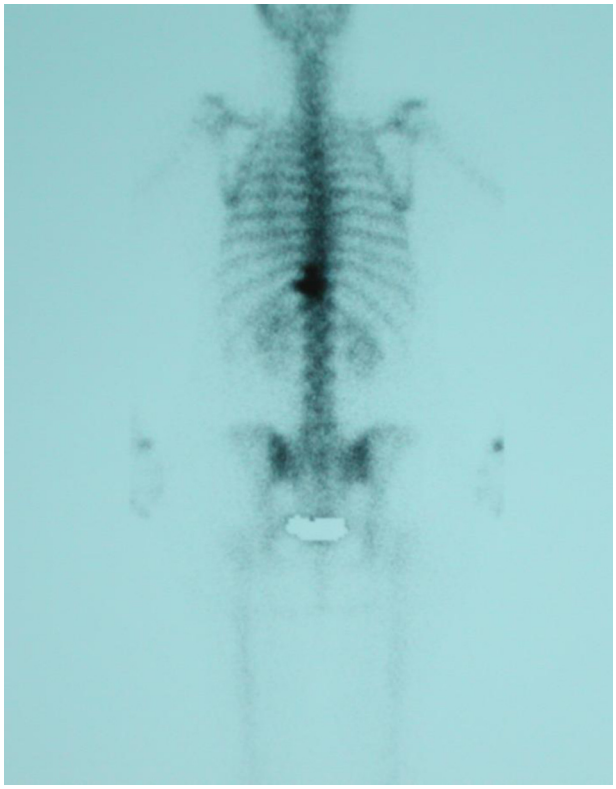

Fig. 1. Technetium scintigraphy (patient 1), fixation of the left facet joint T10-T11.
Scintigraphie au technétium (patient 1), fixation de l'articulaire postérieur gauche T10-T11.

CT was performed in 3 patients. The CT for patient 1 was performed 7 weeks after the onset of symptoms; it revealed an osteolysis of T11 left lateral hemi-arch, with an infiltrative process of the T10-T11 joint and of the paraspinal muscles. The CT for patient 8 was performed 3 months after the onset of symptoms; it also revealed a large lytic lesion of the posterior left L4-L5 joint with posterior epiduritis, and soft tissue infiltration. The CT for patient 10 was performed 1 week after the onset of symptoms and was normal.

All patients underwent spinal MRI to confirm the diagnosis presenting as isolated synovitis (hypointense on T1, with enhancement after gadolinium injection, and hyperintense on T2) or greater inflammatory changes of the joint with narrowing and erosion of the intervertebral space and possible extension to soft tissues, and epiduritis (Fig. 2). Five patients presented with epiduritis at diagnosis. Five patients presented with pyomyositis (paraspinal abscess or psoas abscess). Two patients presented