

# Acute sacroiliitis as a manifestation of calcium pyrophosphate dihydrate crystal deposition disease

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## ABSTRACT

*While radiographic lesions of the sacroiliac joint (SIJ) are common in patients with calcium pyrophosphate dihydrate (CPPD) crystal deposition disease, they are rarely accompanied by clinical symptoms. We report the case of a 69-year-old woman who presented with an acute sacroiliitis and a linear calcification in the right SIJ on CT scan. The patient recovered well after intra-articular steroid injections.*

## Introduction

Intraarticular calcium pyrophosphate dihydrate (CPPD) crystal deposition may occur either as an isolated event unassociated with structural changes or symptoms, or in association with acute and chronic arthritis (1). While radiographic lesions of the sacroiliac joints (SIJ) are common in patients with CPPD deposition disease, they are rarely accompanied by clinical symptoms (2). We report here a case of an acute sacroiliitis probably related to CPPD deposition in the SIJ.

## Case report

A 69-year-old woman with a past history of duodenal ulcer was admitted for acute right buttock pain which had appeared five days earlier together with a fever of 39°C. The pain was more severe on walking and in the sitting position. Physical examination disclosed a

painful limp, and a tender area in the right buttock. The range of motion in the hips was normal and indolent. Patrick and Faber manoeuvres stimulated the pain. Laboratory examinations showed an ESR of 10 mm/1st hr, CRP < 4 mg/l, and 5,600 leucocytes/mm<sup>3</sup>. Uric acid, calcium and phosphorus were within normal values. Pelvic x-rays showed no abnormality. CT scan revealed a calcification in the right sacroiliac joint with a normal joint space and no bony erosions or sclerosis (Fig. 1). X-rays showed a calcification in the triangular ligament of the wrist. Laboratory exams and CT scan excluded the possibility of an infectious etiology. The calcification of the SIJ and the triangular ligament of the wrist were highly indicative of CPPD crystal deposition disease.

As analgesics were not sufficient to control the pain, an injection of steroids was carried out under scopy and reduced the pain by 50%. After a second injection, the pain disappeared immediately and completely.

## Discussion

CPPD crystal deposition disease incorporates all cases of CPPD deposition. Chondrocalcinosis is used to refer to calcification of the articular fibro- or hyaline cartilage. Sporadic, familial and metabolic disease-associated forms are recognized. Clinical manifestations include



**Fig. 1.** CT scan of the right sacroiliac joint showing intraarticular calcification within an otherwise normal joint.

acute self-limiting synovitis (pseudogout) and chronic arthropathy. Any joint may be involved, but the knee is by far the most common site, followed by the wrist, shoulder, ankle and elbow (1). In the sacroiliac joint radiological involvement is common. Cantagrel *et al.* (3) reported a 41% rate of abnormal x-ray sacroiliac joints in a series of 28 patients (mean age 69 years). SIJ involvement in familial generalized CPPD crystal deposition disease has also been widely described. In a study of 47 Chiloe Islanders with familial chondrocalcinosis, calcification of the articular cartilage of the SIJ was observed in 23 patients (4). A study of chondrocalcinosis in Czechoslovakia reported sacroiliac calcification in 10 of 27 cases examined (5).

The roentgenographic manifestations of CPPD crystal deposition in the SIJ vary from isolated intra-articular calcification within an otherwise normal SIJ, to an inflammatory sacroiliitis with subchondral sclerosis accompanied by apparent joint space widening due to bony erosions, to degenerative SIJ disease, a common finding in the elderly (6). CT scan has a higher sensitivity and can reveal

abnormalities in the sacroiliac joint that may go undetected on x-ray, as was seen in our case.

In contrast, there have been very few reports of clinically acute sacroiliitis as a manifestation of CPPD crystal deposition disease. McCarty (7) described a case of painful sacroiliac joint in a 58-year-old black woman with polyarticular chondrocalcinosis. François *et al.* reported two cases: one a 53-year-old man and the other an 82-year-old woman. Both had chondrocalcinosis in other joints; CT scan studies of the SIJ showed sclerosis and irregularities of the joint margins with a thin linear calcific deposit within the joint. Both patients recovered fully on therapy with colchicine.

In our patient, the SIJ calcification was associated with calcific deposits in the triangular ligament of the wrist. Proof of the crystalline nature of these deposits could have been provided only by a biopsy of the SIJ, which would have been ethically incorrect to carry out under the circumstances. We concluded that CPPD crystal deposition disease was the most probable and logical explanation of the patient's condition. NSAIDs could not

be administered due to the patient's past history of duodenal ulcer, so we decided to treat her with steroid injections in the SIJ which had a rapid and beneficial effect.

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