

CASE REPORT

Osteitis Condensans Illi – An overlooked cause of low back pain mimicking sacroiliitis

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Abstract

Osteitis Condensans Illi (OCI) is an underrecognized cause of low back pain involving iliac bones with relative sparing of sacroiliac joint. We present a case of 48-year-old female who was diagnosed as a case of OCI after having back symptoms for 4 years.

KEYWORDS

chronic low back pain, iliac bone sclerosis, orthopedics, Osteitis Condensans Illi, sacroiliitis

1 | INTRODUCTION

Osteitis Condensans Illi (OCI) is a benign cause of low back pain and orthopedic mystery. It is usually identified as an incidental finding on radiographs characterized by sclerosis of iliac bone adjacent to the sacroiliac joint with sparing of the sacroiliac joint. It is very common in young females with current or remote relationship with pregnancy although rare cases have been identified in males.

Majority of patients respond well to simple conservative measures. Rest, local application of heat and physical therapy are found to be helpful in most patients. We present a case of low back pain without definitive diagnosis for 4 years and incidentally found to have OCI on CT scan. This case emphasizes that OCI should be considered as a potential cause of low back pain and highlights the

importance of appropriate imaging and a high index of suspicion for the diagnosis.

2 | CASE PRESENTATION

Our patient was a 48-year-old female referred to our clinic by pain management specialist for evaluation of low back pain of 4 years duration with MRI findings suggestive of inflammatory cause. She described the pain as sharp, stabbing in character, non-radiating, worsened by activity, and relieved by rest, tramadol and gabapentin. She had tried multiple medications in the past with some relief of pain from tramadol and gabapentin but not much with non-steroidal analgesics. Physical therapy did not provide much benefit. She also described muscle cramps

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and paresthesia in the legs. She did not notice any history of trauma and denied bowel/bladder incontinence, saddle anesthesia, weakness of lower extremities, fever, night sweats, recent changes in appetite or weight.

She was obese with BMI of 41. Physical examination revealed tenderness over lower back over sacroiliac joint with reduced range of motion. FABER (Flexion, Abduction, External rotation) test was positive on the left side. There was no evidence of arthritis in other joints of the body.

3 | INVESTIGATIONS

Complete Blood Count and Complete Metabolic Profile were unremarkable with borderline elevated CRP (1.1, <1.0g/dL) and normal ESR (15, <20 mm/h). HLA-B27 was negative and hepatitis panels were also normal. MRI of the pelvis prior to visit showed erosions of bilateral sacroiliac joint and marrow edema with suspicion for inflammatory process and bilateral sacroiliitis. However, based on history highly suggestive of non-inflammatory back pain with normal inflammatory markers, CT scan was ordered to further evaluate erosive changes reported on MRI. CT scan revealed sclerosis of the iliac side of the sacroiliac joint suggestive of OCI (Figure 1). Additionally, a vacuum phenomenon was well recognizable bilaterally in the sacroiliac joint, supporting non-inflammatory arthritis and no corroborating erosions were reported (Figure 2). The case was diagnosed as OCI based on the imaging findings and lack of findings supporting inflammatory back pain.

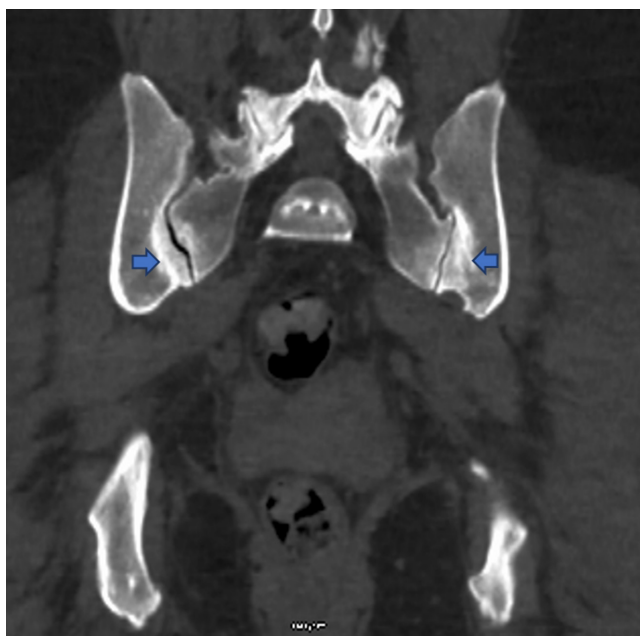


FIGURE 1 Coronal CT scan showing similar sclerosis of iliac bones (arrow) adjacent to sacroiliac joints typical of Osteitis Condensans Illii.

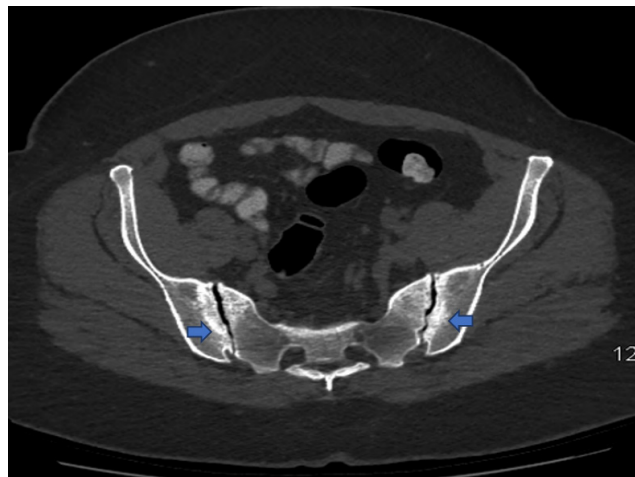


FIGURE 2 Axial CT scan showing sclerosis of iliac bones (arrows) adjacent to sacroiliac joints with sparing of the joint for any erosions.

4 | DIFFERENTIAL DIAGNOSIS

Conditions that cause chronic low back pain should be considered in the differential diagnosis of OCI. Usually, common causes of back pain such as mechanical non-specific back pain or back strain should be considered initially. They can be differentiated from OCI by short duration of symptoms and association with physical strain or injury in most of the cases. Similarly, mechanical low back pain usually does not demonstrate anatomic abnormalities but disc injuries, pars interarticularis injuries, sacroiliac joint injuries, spondylosis and spinal stenosis can be seen in radiographs. Radiologic imaging in OCI usually shows sclerosis of Iliac bone adjacent to the sacroiliac joint with relative sparing of SI joint in most cases.

Axial spondyloarthritis (AxSpA) is another condition that mimics OCI. Both conditions can present with inflammatory back pain and can have inflammatory MRI lesions. Milder symptoms, no systemic disturbances (e.g., weight loss, elevated ESR and CRP), periods of prolonged remission and response to conservative treatment methods favor the OCI over spondyloarthropathies. Similarly, presence of peripheral (arthritis, enthesitis, dactylitis) as well as extra-articular (bowel inflammation, uveitis, psoriasis) features, and post-inflammatory changes are suggestive of AxSpA over OCI.

5 | TREATMENT

Our patient was treated in the past with analgesics with some benefit from tramadol and gabapentin. She did try physical therapy in the past without much success. We suggested muscle relaxants and recommended following

with pain management or establishing with physiatrist to explore other non-pharmacologic and pharmacologic options for back pain management. We also elucidated that she may have to consider seeing orthopedic surgeon if symptoms persist.

6 | DISCUSSION

The above-described case is a case of OCI, a benign cause of low back pain which mimics sacroiliitis. Our patient was incidentally diagnosed with OCI based on radiographic findings after having undiagnosed back pain for 4 years. The main aim of our case report is to increase understanding of this overlooked disorder to facilitate early identification and appropriate management.

It is known that OCI was first described in 1926. It occurs most often in young women who have often given birth, less often in men and nulliparous women, and, as a rule, is asymptomatic or can rarely cause pain in the lower back. In the past, this condition was not considered a separate entity as it shares the common clinical spectrum of AxSpA. Initially, it was considered as a radiological entity characterized by sclerosis of iliac bones adjacent to the sacroiliac joint. Over time, more and more attention was given to the clinical manifestations, diagnosis and treatment of this condition.

The epidemiological data about exact prevalence is lacking. Recent study by Borlandelli et al.¹ showed radiological prevalence of OCI is 1%. They evaluated 1047 individuals in the study, but their study failed to correlate radiologic findings with the clinical manifestations. Radiological distinction is very important in the diagnosis of OCI. OCI lesions are predominantly localized to the anterior part of sacroiliac joint.² Some OCI cases may demonstrate bone marrow edema (48.1% in a study by Ma et al.)³ but bone marrow edema is one of the key findings in the classification criteria for axSpA as well.³ MRI of SI joint in OCI is characterized by predominant ventral location of the lesion, absence of ankylosis and erosive changes. In our patient, although bone marrow edema was seen, it is not a diagnostic finding in OCI and further characterization of bone sclerosis with CT scan was needed.

OCI can be easily missed and requires index of suspicion. Radiographic findings of sclerosis of iliac bone may not be evident in plain radiography and sometimes advanced imaging (MRI or CT) may be needed to exactly delineate the findings. Similarly, OCI is not classified as inflammatory arthritis as it is not associated with elevated inflammatory markers.⁴

There are no approved guidelines for the treatment of this condition. In general, local application of heat, physical therapy and analgesics can be helpful in treating the

condition. Our patient was refractory to physical therapy and analgesics and visited pain clinic multiple times to get relief from the discomfort. Treatment of refractory disease is unclear. Local corticosteroid could be helpful. Surgical resection and sacroiliac arthrodesis are required uncommonly, and their true benefit is unknown.⁵ Ayoub et al studied mini-invasive approach for the refractory OCI with greater success but they treated only 14 patients.⁵

In conclusion, OCI is an underrecognized cause of low back pain and should be considered in differential diagnosis of low back pain to ensure appropriate evaluation and management. Management is mostly conservative, but there is lack of clear guidelines on how to manage persistent symptoms.

AUTHOR CONTRIBUTIONS

Krishna Bashyal: Writing – original draft. **Kamal Dhungana:** Writing – review and editing. **Deepesh Yadav:** Writing – review and editing. **Dilli Ram Poudel:** Writing – review and editing. **Calvin Ghimire:** Resources; writing – review and editing. **Shravya Balmuri:** Resources; writing – review and editing.

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CONFLICT OF INTEREST STATEMENT

None.

DATA AVAILABILITY STATEMENT

Data sharing/availability not applicable to this article as no datasets were generated or analyzed during the current study.

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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