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Low back pain: Spondylitis?

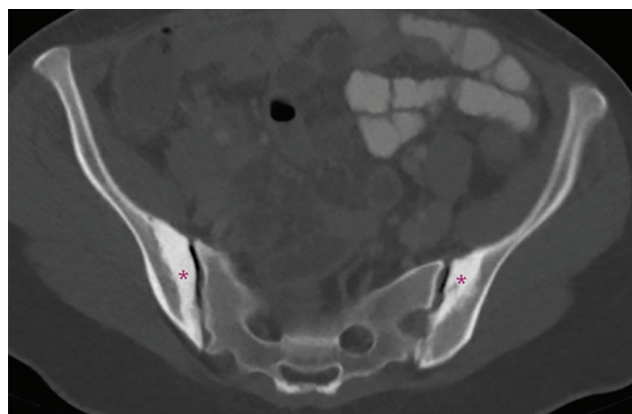


Figure 1. Computed tomography image from patient's evaluation for colitis. This axial view of the midsection of the sacroiliac joints shows bilateral subchondral sclerosis predominant on the iliac sides (asterisks), findings consistent with osteitis condensans ilii.

A 37-YEAR-OLD WOMAN was referred to the rheumatology clinic due to symptoms concerning for spondylitis. She had noted worsening low back pain about 18 months ago while pregnant with twins. At the time of evaluation in the clinic, she reported intermittent back pain episodes with right-sided groin pain that was exacerbated by working long hours and lifting heavy objects. She took nonsteroidal anti-inflammatory drugs for pain, which was beneficial. She denied difficulty with routine activities of daily living, morning stiffness, and nocturnal awakening due to low back pain. She had experienced no episodes of enthesitis, dactylitis, or inflammatory eye disease.

Years previously she had an episode of colitis with abdominal pain and rectal pressure. Computed tomography at that time was notable for colitis and abnormal sacroiliac joints with bilateral subchondral sclerosis (**Figure 1**). About 1 month later, she underwent a colonoscopy, which was unremarkable.

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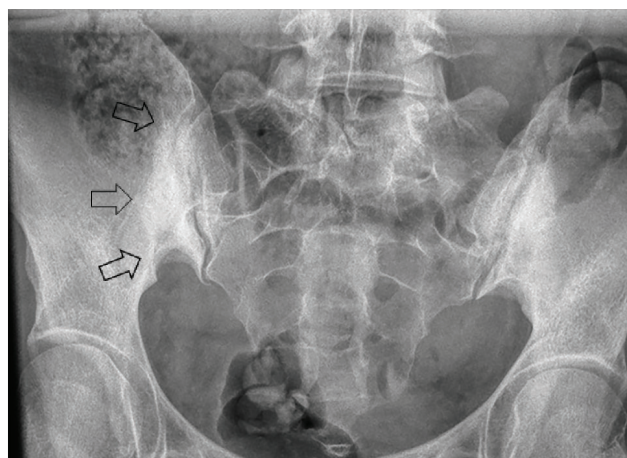


Figure 2. Radiograph of the sacroiliac joints from the patient's evaluation at the rheumatology clinic shows bilateral subchondral sclerosis on the iliac side, consistent with osteitis condensans ilii. The triangular-shaped area of sclerosis, a hallmark radiographic feature of osteitis condensans ilii, is best appreciated on the right side (arrows).

On physical examination at the rheumatology clinic, findings were notable for normal peripheral joints, normal range of motion in the spine, and no sacroiliac joint tenderness with a negative FABER (flexion, abduction, external rotation) stress test. There was no evidence of enthesitis, and her eye examination was normal.

Plain radiography showed dense bilateral subchondral sclerosis on the iliac sides of the mid portion of the sacroiliac joints (**Figure 2**). These radiography findings and the earlier computed tomography findings were consistent with osteitis condensans ilii (OCI).

OSTEITIS CONDENSANS ILII

OCI is a benign, noninflammatory cause of axial low back pain first described in 1926 by Sicard et al.¹ Its pathogenesis remains unclear. OCI has a predilection for

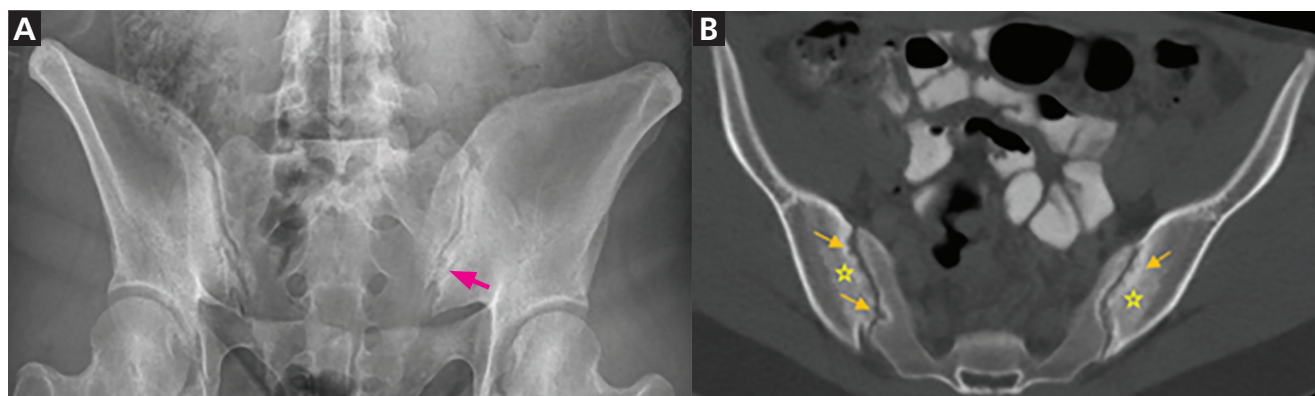


Figure 3. Imaging from a different patient showing radiographic features of ankylosing spondylitis. The (A) radiograph of the sacroiliac joints shows mild irregularity of the subchondral bone over the left inferior sacroiliac joint (pink arrow). The (B) axial computed tomography image of the sacroiliac joints shows bilateral erosions (yellow arrows) and sclerosis (yellow star) on the iliac side.

multiparous females, mean age 35 at time of diagnosis, leading some to propose vascular compression and resulting ischemia related to the physiologic changes of pregnancy, or mechanical laxity and sacroiliac joint overload during pregnancy, as potential mechanisms of injury.¹ Nevertheless, OCI does occur in nulliparous females and males.

Clues to the diagnosis

Patients with OCI complain of intermittent axial low back pain with occasional hip area pain.² This pain can be worse during the third trimester of pregnancy or post pregnancy. OCI can be an incidental radiographic finding in an asymptomatic patient. Radiographic findings of OCI include bilateral triangular (or oval) subchondral sclerosis predominant on the iliac side and the absence of erosions and ankylosis (Figure 2).³ Computed tomography may also show sacral subchondral sclerosis.

The differential diagnosis

The differential diagnosis for OCI is sacroiliitis, which can be seen in other disease entities such as infection, ankylosing spondylitis, psoriatic arthritis, and osteoarthritis. In patients with chronic low back pain, particularly young patients, it is essential to look for features associated with spondyloarthritis, such as the following:

- Inflammatory back pain (age of onset < 40, insidious onset, improvement with exercise, no improvement

with rest, and nocturnal awakening)

- Enthesitis (inflammation of insertion sites of tendons or ligaments into bone)
- Dactylitis (severe swelling of an entire finger or toe)
- Peripheral arthritis
- Extra-articular manifestations (eg, psoriasis, uveitis, inflammatory bowel disease)
- Family history of spondyloarthritis.⁴

OCI and inflammatory sacroiliitis are differentiated based on radiography findings. Imaging in a patient with ankylosing spondylitis shows bilateral symmetric sacroiliitis characterized by a variable combination of erosions, subchondral sclerosis, and ankylosis (Figure 3). Unilateral involvement can be seen in infection, destructive neoplastic processes, and psoriatic and reactive arthritis. Computed tomography can provide better evaluation of sacroiliac joints but is not necessary for diagnosis.

Treatment

Management is usually conservative, consisting of physical therapy and analgesics.² OCI is thought to resolve over years in most cases.⁵

DISCLOSURES

The authors report no relevant financial relationships which, in the context of their contributions, could be perceived as a potential conflict of interest.

REFERENCES

1. Sicard JA, Gally L, Haguénau J. Ostéites condensantes, à étiologie inconnue. *J Radiol D'Electrol* 1926; 10:503–507.
2. Parperis K, Psarelis S, Nikiphorou E. Osteitis condensans ilii: current knowledge and diagnostic approach. *Rheumatol Int* 2020; 40(7):1013–1019. doi:10.1007/s00296-020-04582-9
3. Bower AC, Flemming DJ. The sacroiliac joint. In: *Arthritis in Black and White*. Philadelphia, PA: Elsevier; 2012:138–154.

4. Rudwaleit M, van der Heijde D, Landewé R, et al. The Assessment of SpondyloArthritis International Society classification criteria for peripheral spondyloarthritis and for spondyloarthritis in general. *Ann Rheum Dis* 2011; 70(1):25–31. doi:10.1136/ard.2010.133645
5. Numaguchi Y. Osteitis condensans ilii, including its resolution. *Radiology* 1971; 98(1):1–8. doi:10.1148/98.1.1

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