## Drug-associated sacroiliac bone marrow oedema on imaging

Dear Editor,

In line with a recent fascinating article by Bressem *et al*. on the prevalence of sacroiliac bone marrow oedema (BME) on magnetic resonance imaging (MRI) scans in the general population (1), drug-induced BME was not mentioned and should not be overlooked.

Sacroiliac BME may result from isotretinoin (13-cis-retinoic acid), a widely used medication for a very common skin condition. Millions of young people worldwide suffer from acne. Isotretinoin-induced acute sacroiliitis is a rare but well-recognised adverse effect, with some studies reporting an incidence of roughly 10% among isotretinoin users. It typically begins within 8-10 weeks of therapy and is often bilateral, regardless of the drug dose (2, 3). The effect is usually reversible after stopping isotretinoin, with full clinical recovery in 3-6 months and radiologic resolution in 6-9 months or longer (3, 4). Therefore, sacroiliac BME on MRI may be incidentally observed in previously exposed, asymptomatic individuals, even in the absence of back pain. In their report, Bressem *et al*. observed that sacroiliac BME affects nearly one-third of adults and is associated with pregnancy, overweight, sports, occupational and biomechanical physical stress. Regarding isotretinoin, the mechanisms by which sacroiliitis is induced remain unclear, but a double-hit involving isotretinoin use and mechanical and traumatic physical factors might increase the risk (2-4).

Although sacroiliac BME is indistinguishable from inflammation, well-established pathological sacroiliitis requires both inflammatory and structural findings. A recent study included 28 patients with isotretinoin-induced sacroiliitis and 40 with axial spondyloarthritis (axSpA) (5). MRI scans were assessed for active inflammatory lesions (bone marrow edema, synovitis, capsulitis, enthesitis) and early structural lesions (erosion, fat metaplasia). In isotretinoin-induced sacroiliitis, MRI showed no evidence of structural damage, whereas both active inflammatory (BME) and structural lesions were observed exclusively in axSpA (5).

Notably, as in other cases of sacroiliitis, if the diagnosis of isotretinoin-induced sacroiliitis is delayed, multiple treatments, including NSAIDs, corticosteroids, and biological therapies such as tumor necrosis factor (TNF) blockers, may be necessary (2-4). In line with the significant impact of the study by Bressem and coauthors on daily clinical practice, sacroiliac bone marrow edema can occur in various "habitual" conditions (1). Drug-associated etiology for sacroiliac BME, accompanied by a broad spectrum of clinical presentations, from asymptomatic to active and painful sacroiliitis, should also be considered. High awareness, with early diagnosis and immediate drug cessation, is the mainstay of management. Sacroiliac BME is highly sensitive but non-specific, so clinical-imaging correlation should be used to reduce overdiagnosis and the inappropriate initiation of potent and expensive anti-inflammatory treatment.

Many years ago, an entity of retinoid hyperostosis was reported (6). Acne vulgaris is common, and isotretinoin is frequently used in young individuals for varying durations. If imaging shows sacroiliac bone and joint changes, isotretinoin exposure should be questioned (7). I suggest adding drug-related causes, such as isotretinoin, to the differential and encouraging clinicians to question retinoid use in patients who develop sacroiliac BME.

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