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A Rare Cause of Hip Pain: Transient Osteoporosis of Hip

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The case presents a 36-year-old man with atraumatic right hip pain, which he described as deep inguinal pain worsened with walking. He had no other chronic disease in his history. On physical examination we observed that flexion and internal rotation of the right hip was painful and limited. His laboratory findings were normal. There was no obvious pathology in pelvic radiography (Fig. 1a). Magnetic resonance imaging (MRI) of hip demonstrated broad marrow edema in femur head expanding to the neck, consistent with transient osteoporosis of hip (Fig. 1b). The patient was scheduled for a follow-up examination after one month of rest and treatment with calcium and vitamin D supply and anti-inflammatory medication. On the follow-up examination, his complaints were relieved. His total t score of L1–L4 was measured as −1.4 by dual-energy X-ray absorptiometry (DXA). After one month of combined alendronate, vitamin D, and analgesic treatment his last MRI study demonstrated regression of the marrow edema with other normal findings (Fig. 1c).

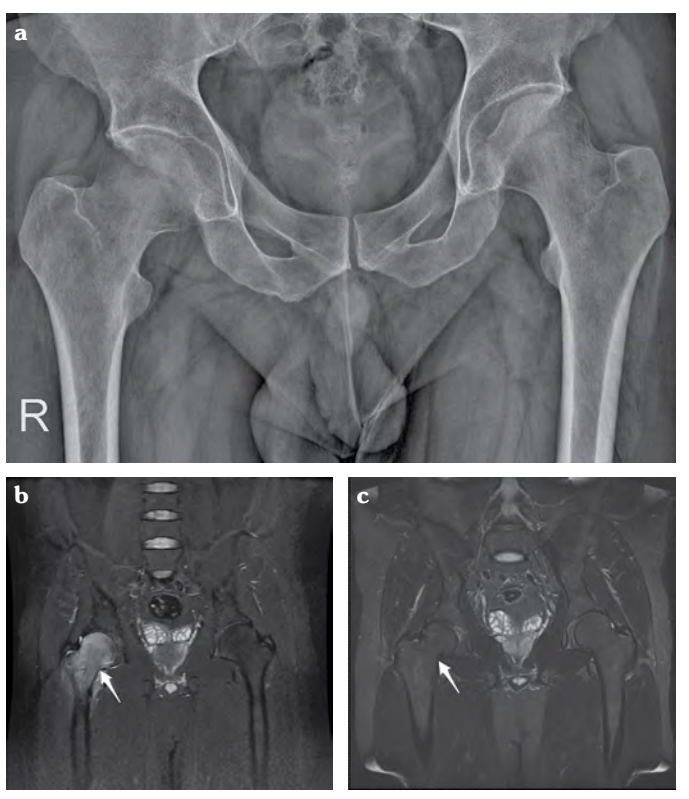

Figure 1. (a) Hip X-ray with normal findings. (b) MRI showing T2w hyperintense signaling involving right femur head and neck consistent with bone marrow edema. (c) Resolution of the right femoral edema

Transient osteoporosis of the hip (TOH) is a rare, self-limiting disease with unexplained localized pain. TOH is most commonly seen in middle-aged men. In women it is most common in last trimester of pregnancy (1). The radiology of the affected femoral head shows focal loss of radiodensity, bone marrow edema pattern, and diffuse homogeneous uptake on bone scintigraphy (2). The ethiology of TOH is unclear but microvascular injury, nontraumatic reflex sympathetic dystrophy, infections, metabolic, neurological, or endocrine factors are thought to be possible causes (3). The resolution of the process occurs clinically and by radiograph in approximately 6–12 months (1).

MRI is very sensitive to detect TOH and it also helps excluding other pathologies such as avascular necrosis, insufficiency fractures, infection, and neoplasm (3). DXA can show osteoporosis but it is unclear whether osteoporosis causes bone marrow edema (1).

Treatment of TOH includes rest, analgesic medications for control of pain. Bisphosphonate, teriparatide, or calcitonin therapy can be used to shorten the time of recovery for TOH. Core decompression surgery is a further option in patients who do not improve with medical treatment (1).

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