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IMAGES IN RHEUMATOLOGY

Bilateral transient osteoporosis of the hip: a neglected cause of hip pain during pregnancy

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During pregnancy and lactation, there is a higher demand for calcium and changes in maternal bone microarchitecture may occur, leading to a temporary reduction in skeletal strength. In pregnancy, calcium is primarily supplied by increased intestinal absorption, with minor contribution from maternal bone loss[1,2]. Whereas, during lactation, daily calcium loss in milk is mainly supported by maternal bone resorption. This is evidenced by elevated bone resorption markers and a 5-10% loss in trabecular bone mineral density (BMD) within the first 3 to 6 months of lactation[2]. These physiological changes in maternal bone metabolism are usually entirely reversible and do not adversely affect bone resistance or maternal fracture risk.

However, in a small number of cases, more pronounced decreases in bone mass may occur leading to transient osteoporosis, especially in the hip, whose underlying mechanisms are not fully understood. Transient osteoporosis of the hip (TOH) typically begins with hip pain, often neglected, gradually causing debilitating mobility and carrying risks such as fracture or avascular necrosis[3]. This is an important differential diagnosis to consider in cases of hip pain in pregnant or newly breastfeeding women, as it can significantly impact quality of life.

We report a case of a 39-year-old woman, who presented at the Rheumatology department two weeks post-cesarean delivery with bilateral coxalgia. The patient had no relevant personal history and reported the onset of left mechanical hip pain since the 33rd week of pregnancy. The pain got progressively worse and was accompanied by limited mobility and inability to walk. After delivery, similar complaints emerged on the right side. There was no history of trauma or other accompanying symptoms. The patient promptly underwent a hip x-ray which showed a decrease in bone density in the left hip. Later, the Magnetic Resonance Imaging (MRI) revealed bilateral bone marrow edema in both proximal femurs (Figures 1 and 2). The hemogram and phospho-calcium metabolism were normal and the acute phase parameters were negative. Dual-Energy X-Ray Absorptiometer (DXA), carried out 2 months after delivery, showed a T score of -1.8 at the femoral

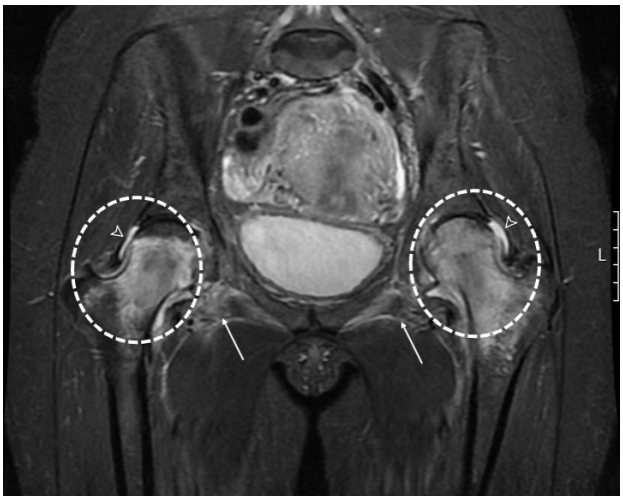

Figure 1. Coronal-STIR sequence shows diffuse signal hyperintensity of the femoral head and neck bilaterally (dashed circles) corresponding to bone marrow edema. Reactive bilateral hip effusion (arrowheads) and adductor muscles edema (arrows) is also seen.

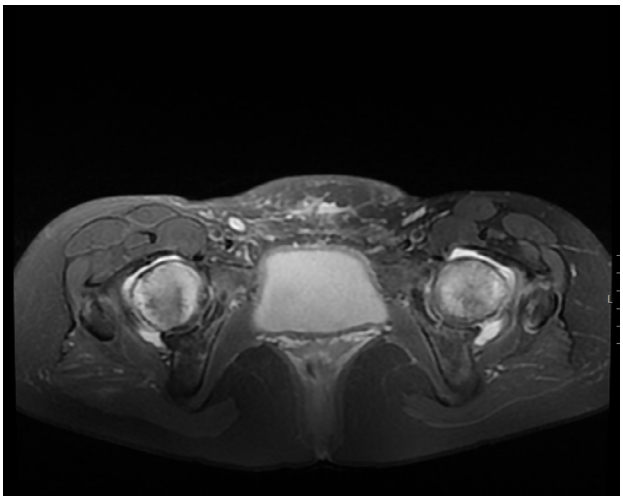

Figure 2. Similar findings observed on the axial FS PF-FSE sequence. FS PD-FSE: Fat-suppressed proton-density fast-spin-echo.

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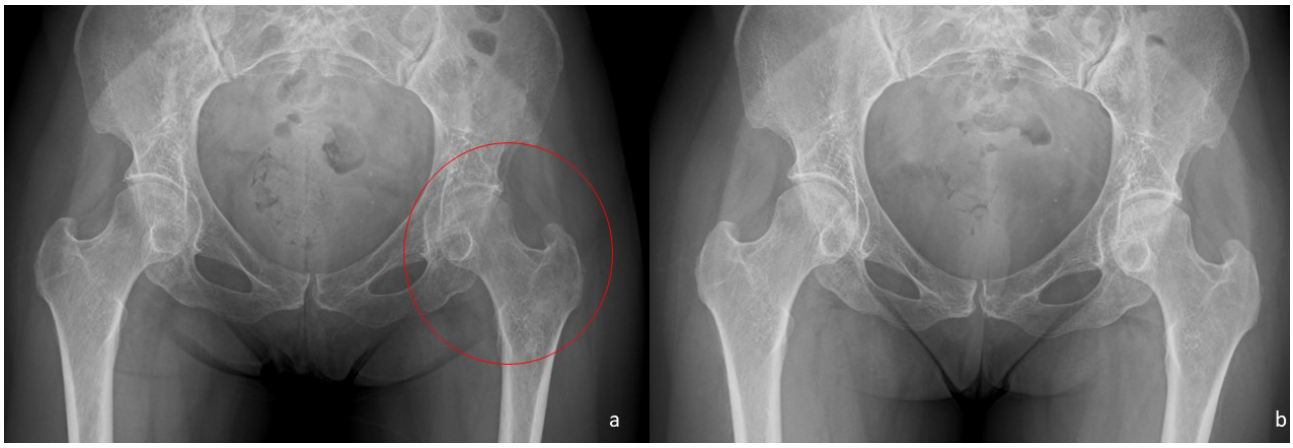

Figure 3. Pelvic radiographs (a) shows proximal femur osteopenia predominantly in the left side (red circle); (b) 7 months later the Radiographs shows a complete resolution of these changes.

neck and at the lumbar spine. Supported by the imaging findings, it was possible to establish the diagnosis of TOH, making other diagnoses such as neoplasia or infection much less likely.

The patient underwent analgesia and rest with a later gradual increase in the load. In the follow-up appointment, 7 months later, she was asymptomatic, with complete and painless joint ranges. The X-ray showed normalization of the previously detected changes in bone density (Figure 3).

Pregnancy is a recognized risk factor for TOH, especially in the last trimester. Clinical presentation involves sudden and progressive pain in the back, groin, hip, or lower extremity, worsening with weightbearing[3]. Plain radiography may be considered when MRI is unavailable. MRI, the preferred imaging test, reveals bone marrow edema and carries no biological effects on fetus, serving as a sensitive tool for distinguishing TOH from other hip pathologies[3,4]. TOH typically resolves within the first year post-delivery with conservative measures - minimizing weight-bearing, rest, and analgesics, without the need for antiresorptive drug treatment[5].

REFERENCES

1. Scioscia MF, Zanchetta MB. Recent Insights into Pregnancy and Lactation-Associated Osteoporosis (PLO). Int J Womens Health. 2023;15:1227-1238. Published 2023 Aug 2. https://doi.org/10.2147/IJWH.S366254
2. Kovacs CS, Ralston SH. Presentation and management of osteoporosis presenting in association with pregnancy or lactation. Osteoporos Int. 2015;26(9):2223-2241. https://doi.org/10.1007/s00198-015-3149-3
3. Wright EV, Naqvi AZ, Syed S, Zaw H. Transient osteoporosis of the hip in pregnancy: the orthopaedic management of bilateral neck of femur fractures in the third trimester. BMJ Case Rep. 2021;14(3):e238659. https://doi.org/10.1136/bcr-2020-238659
4. Asadipooya K, Graves L, Greene LW. Transient osteoporosis of the hip: review of the literature. Osteoporos Int. 2017;28(6):1805-1816. https://doi.org/10.1007/s00198-017-3952-0
5. Carriles Rivero I, Aubá Guedea M, Chacón Cruz E, Manzour Sifontes N, Galofré JC. Transient osteoporosis of the hip during pregnancy. Osteoporosis transitoria de cadera en el embarazo. Endocrinol Diabetes Nutr (Engl Ed). 2019;66(9):588-591. https://doi.org/10.1016/j.endinu.2019.03.016