

# Fatigue fracture of the sacrum related to pregnancy

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## ABSTRACT

Pregnancy is the period when, due to hormonal and structural changes connected with fetal growth, temporary musculoskeletal dysfunctions occur. Pregnancy-related fatigue fractures may be a rare cause of persistent or increasing pain in the sacrum region.

**Key words:** lumbopelvic pain; fatigue fracture; sacrum; pregnancy

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## CASE REPORT

Lumbar and pelvic pain is often reported by pregnant and postpartum women. Persistent, severe pain may be a result of pregnancy-related fatigue fracture of the sacral bone. These types of fractures occur more frequently after childbirth than during pregnancy, and they are usually unilaterally. Their cause may be pregnancy-induced osteoporosis, heparin-intake that secondary induces osteopenia, significant weight gain or increased lumbar lordosis. However, more frequently, it is a fracture induced by forceps delivery, and a rapid vaginal delivery, especially of a child with a high birth weight. It inconveniences diagnostic difficulties due to the similarity of the symptoms, which concern typical spinal pain as well as due to frequent lack of radiological symptoms. Diagnosis is difficult due to similarity of symptoms with spinal pain syndromes and frequent false negative results of classical X-ray images, especially in early fracture stage [1–5].

A 30-year-old patient after the first vaginal delivery came to a gynecological consultation two weeks after delivery because of exacerbation of pain located in the posterior part of the pelvis. In the gynecological examination, no abnormalities were found. Before pregnancy she had sporadic pain in the cervical and thoracic spine. No chronic diseases, metabolic diseases, eating disorders, or previous injuries of the spine and pelvis were found. The birth weight of the child was 3800 g. The patient began breastfeeding after delivery. Pain ailments appeared from the 24<sup>th</sup> week of pregnancy during prolonged sitting position and lasted until the delivery. The highest pain intensity appeared after delivery. The pain appeared in the area of the left sacroiliac joint and radiated to the gluteal region. The imaging study revealed no changes in the lumbar spine and the presence of a fatigue fracture in the lateral mass of the sacral bone and near the lower part of the sacroiliac joint on the left (Fig. 1). A package of studies evaluating calcium-phosphate metabolism was recommended. Only decreased concentration of 25-hydroxyvitamin D was found. The patient was recommended to take Osteogenone, vitamin D supplementation, use varied diet, self-sparing lifestyle and have minimum 3 months break from work, do unweighing exercises in water environment. The physiotherapist recommended partial unweighting of the lower left limb during walking, using of the sacroiliac belt, applying electrotherapy and magneto therapy procedures.

In the period of up to three months after delivery, the pain was gradually getting decreased. However, it got intensified with prolonged physical activity, or a prolonged sitting position. Six months after delivery, the pain subsided or occurs sporadically at low intensity.

## CONCLUSIONS

As to the pain located in the sacral bone area and in the gluteal area, which significantly limits daily functioning, persisting or increasing over time, the presence of a fatigue fracture of the sacrum should be considered. Treatment of

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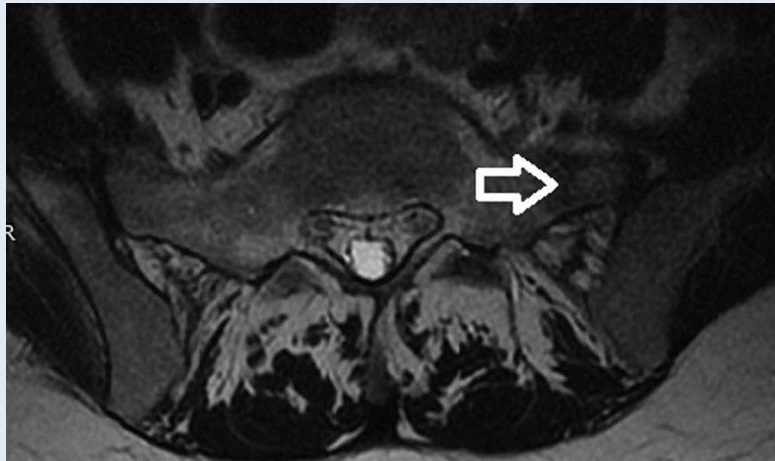
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**Figure 1.** Pelvic MRIs showing bone marrow edema and the fracture line in the left sacral ala

fracture includes non-invasive methods including analgesic therapy with the use of pharmacotherapy, vitamin D supplementation, lower limb unweighting and physiotherapy [1, 2].

#### **Conflict of interest**

All authors declare no conflict of interest.

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