Osteonecrosis of the femoral head (aseptical, avascular or ischemic) is a condition of difficult deteriorisation of bone structure, which can be temporary or transit and with irreversible character. Aseptic necrosis of the femoral head during pregnancy is uncommon finding and presents a diagnostic challenge. It requires a multidisciplinary approach in order to determine whether the osteonecrosis is a complication of previous pathological condition or is an entity related to pregnancy and postpartal period.

OBJECTIVE

The aim of this report is to show the importance of early recognition of osteonecrosis of the femoral head in the early postpartal period, in order to prevent severe damage and the most severe complication-spontaneous (pathological) fracture of the femur.

CASE REPORT

Female patient aged 32 years was admitted to the Institute of Gynecology and Obstetrics, Clinical Center of Serbia in 38th week of the first, the desired controlled pregnancy with the fetal macrosomia diagnosed in the third week of gestation. On admission to the hospital, the patient stated that she feels severe pain in the left inguinal area for the last three weeks, which increases with moving and changing positions in bed. This painful sensations prevented measuring of external pelvic measures. The patient denies similar problems before pregnancy and the use of drugs, alcohol and tobacco.

Obstetric findings on admission revealed cervix length of 1,5cm with a greater decidual polips, fetal head high above the pelvic entrance, normal findings of uterus and amniotic fluid for 38th week of pregnancy. Ultrasound examination revealed vital fetus, with sufficient amniotic fluid and placenta normally embedded. C section was performed, and a male infant born alive measuring 3900
grams of body weight, body length of 33cm and head circumference was 36cm. Operation and postoperative course were uneventful. Patient was examined on the first postoperative day when it was determined that she cannot perform active movements of flexion in the hip joint, and movements of abduction and adduction were limited by pain. Internal rotation of the left hip was possible to ten degrees with pronounced pain, weakness of upper leg muscles and reduction of gross muscle strength to score 2 MMT (inability to overcome the force of gravity) were present.

The patient was trained to perform isometric exercises with the aim of preserving and strengthening the trophic upper knee and pelvis-trochanter muscles and upright with the help of crutches without support of the left leg. On the fourth postoperative day, there was a discrete recovery of coarse muscle strength, but the symptoms still persisted, in terms of pain and limited mobility and pain in the left hip joint, therefore it was indicated to obtain X-ray images of the pelvis and both hips.

X-ray revealed reduction in bone density in the head and neck of left femur. Additional diagnostic testing was required, so the NMR was obtained. NMR revealed edema of bone marrow and intertrochanter region of the left femur that corresponds to the transit edema of the medulla from the initial avascular necrosis and resorptive joint effusion in the left coxofemoral joint (Figure 1).

The patient was discharged from the hospital with a recommendation to continue with isometric exercises and mobilization without the support of the left leg, and to be examined by immunologists, hematologists, rheumatologist and endocrinologist so that antiphospholipid syndrome, rheumatoid arthritis, systemic lupus eritematosus could be excluded, as well as to consider the impact of lactation on further course of osteonecrosis.

**DISCUSSION**

Pain in the groin region which lead to changes in posture limit the power of the lower extremities and interfere with activities of daily living, and appear in late pregnancy and the early postpartal period is often associated with chronic low back pain, early postural deformities, compression of gravid uterus on the pelvic structures, and also the increase in weight is an additional burden factor. However, the same symptoms can be both diagnostic and differential diagnostic challenge, precisely because the possibility of additional diagnostic testing in pregnancy is limited (X ray). That is why a detailed anamnissis and adequate physical examination is of great diagnostic value. It is important to find out about following while obtaining anamnestic data: congenital and acquired deformities of the musculoskeletal system, diet during puberty and adolescence, systemic disease, hypertension, hematological diseases, liver diseases, gastrointestinal diseases, smoking, alcohol consumption, use of corti- costeroid, anticonvulsant, anticoagulant and hormonal substitutional therapy during pregnancy, occurrence of menarche, the quality of the menstrual cycle and the current diet.

**FIGURE 1.**

NMR PRESENTATION OF EDEMA OF THE MEDULLA FROM THE INITIAL AVASCULAR NECROSIS AND RESORPTIVE JOINT EFFUSION IN THE LEFT COXOFEMORAL JOINT
Some authors explain the relationship between the osteonecrosis of the femoral and pregnancy in the following manner:\textsuperscript{3,4}

- Increased levels of adrenal-cortical activity
- Increased levels of parathyroid hormone which accelerates bone resorption
- Increased levels of markers of bone resorption that doubles the normal values in the last trimester of pregnancy
- Increased release of thromboplastin into the blood during pregnancy and
- Mechanical stress caused by compression of gravid uterus and an increase in body weight

CONCLUSION

The early diagnosis of osteonecrosis of the femoral head related to pregnancy prevents the occurrence of the most serious complications of this condition - pathologic (spontaneous) fractures requiring surgical treatment and long-term rehabilitation which impairs the quality of life in the most demanding period of women life.

BIBLIOGRAPHY