

OSTEONECROSIS OF THE KNEE AFTER PARENTERAL CORTICOSTEROID APPLICATION AND INTRA-ARTICULAR HYALURONIC ACID INJECTION

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Background

Osteonecrosis is the death of bone tissue due to interruption of blood supply. The development is associated with systemic and intra-articular use of corticosteroids. The earliest symptom is pain. We present the case of an 65-year-old female that developed osteonecrosis of the right knee after parenteral corticosteroid application and intra-articular hyaluronic acid injection.

Case report

Patient was presented in our practice in October 2024 with the pain in the right knee. Degenerative changes of the knee were visible on MRI in July 2024 and were treated with intra-articular corticosteroid injection with good effect on pain. Because of spinal stenosis symptomatology, she received an epidural corticosteroid injection (ESI). Two days prior the ESI, intra-articular hyaluronic acid injection (HAI) was applied because of the degenerative changes of the knee. Two weeks after the HAI, at the beginning of August 2024, the knee pain got worse which led to further corticosteroid intra-articular applications. Two months after the pain intensified, at the beginning of 10/24, the diagnosis of osteonecrosis of medial femoral condyle was confirmed with a MR scan. The patient started walking with two crutches and 50 days of continuous physical therapy were performed. On MR scan control edema was reducing. The load on the right leg was gradually increased. During the last check-up in March 2025., due to clinical deterioration and deterioration of edema on MR findings, knee arthroplasty was recommended.

Conclusion

If left untreated, osteonecrosis can lead to the destruction of joint. Except one study, we haven't found any cases in literature connecting the onset of osteonecrosis with hyaluronic acid intra-articular application. The goal of our case report is to draw attention to the cumulative dose of corticosteroids that can lead to the development of osteonecrosis as well as after the combination of corticosteroids and intra-articular hyaluronic acid injection.

Keywords: osteonecrosis, intra-articular, corticosteroid, hyaluronic acid