

Subchondral Insufficiency Fractures of the Femoral Head: What Can We Tell Patients?

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Purpose: Subchondral insufficiency fracture of the femoral head (SIF-FH) is a relatively new diagnosis following an insidious onset of hip pain in osteoporotic individuals. It is felt to differ from osteonecrosis, yet little is known about its pathophysiology. Little is written about the treatment of SIF-FH. The aim of this study is to investigate the outcomes of a consecutive series of patients with SIF-FH treated at 1 institution.

Methods: A total of 138 patients aged 23 to 91 years who were treated for a confirmed SIF-FH by an orthopaedic surgeon in the outpatient clinics at 1 academic, urban medical center between August 2012 and August 2019 were identified. Patient demographics, injury history, duration of pain, treatment type, and persistence of pain were recorded. Data were analyzed using a χ^2 test of homogeneity and binary logistic regression using IBM SPSS.

Results: Of the 138 patients included in the analysis, 131 (94.9%) reported no occurrence of trauma prior to their onset of pain, while 7 patients (5.1%) reported onset of pain following a “traumatic injury.” Plain radiographs of the hip were negative in all cases, and the diagnosis was made on MRI of the hip. All patients were treated with protected weight-bearing for 6-8 weeks, or until symptoms abated; prescribed physiotherapy; or underwent a guided steroid injection of the hip. 89 patients (64.5%) with a mean age of 64.3 years ultimately underwent total hip arthroplasty (THA) at an average of 184.6 days after their initial complaint of pain. 45 patients (32.6%) chose no surgical intervention, and only 18.6 % had resolution of their symptoms. Patients who underwent THA had less pain at their final follow-up appointment than patients who were elected for nonoperative treatment ($P < 0.001$). At their final follow-up appointments, an average of 10.94 months after presentation, 81.4% of patients treated with observation had some pain at final follow-up, while only 14.8% of patients who underwent THA had some pain at their final follow-up appointments. Age, body mass index, and duration of pain prior to initial complaint did not affect presence of continued pain at final follow-up appointments, regardless of treatment type ($P > 0.05$).

Conclusion: In the vast majority of patients, SIF-FH does not resolve spontaneously. Pain reported among patients with confirmed or suspected SIF-FH is usually severe and interferes with patients’ ability to perform their activities of daily life. Pain is often not sufficiently managed with nonoperative treatments, such as steroid injection and physical therapy. THA seems to be the most reliable method of treatment for this condition. Physicians who treat patients with SIF-FH should counsel them as to the expectations of recovery and potential for poorer outcome if treated without THA.