

Insufficiency Fracture of Femoral Head in Patients Treated With Intramedullary Nailing for Proximal Femur Fracture

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Abstract : Introduction: Subchondral insufficiency fracture of the femoral head (SIF) is a rare complication; however, it has been recognized to cause femoral head collapse. Subchondral insufficiency fracture (SIF) is caused by normal or physiological stress without any trauma. It has been reported in osteoporotic patients after the fixation of the proximal femur with an Intramedullary nail. Case presentation: We reported 5 cases with SIF of the femoral head after proximal femur fracture fixation with Intra-medullary nail. All patients had osteoporosis as an underlying disease. Good reduction was achieved in all 5 patients. SIF was found from about 3 months to 4 years after the initial operation, and all the fractures were solidly united at the final diagnosis. We investigated retrospectively the feature of those cases and several factors that affected the occurrence of SIF. Discussion: There are a few discussions regarding the SIF of the femoral head. These discussions may include the predisposing risk factors, how to diagnose the SIF in osteoporotic patients, and the peri-operative factors to prevent SIF. Conclusion: Subchondral insufficiency fracture of the femoral head is a considerable complication after the internal fixation of the proximal femur. There are several factors that can be modified. If they could be controlled in the peri-operative period, SIF could be prevented or handled in advance. Other options related to arthroplasty can be considered in old osteoporotic patients.

Keywords : insufficiency fracture of femoral head, intra-medullary nail, osteoporosis, proximal femur fracture

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