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AO type 43C tibial pilon fractures: what factors influence functional outcomes?

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ABSTRACT

Objective: The objective of this study was to prospectively evaluate operated cases of AO type 43C tibial pilon fracture and to assess factors that might influence functional outcomes during the late postoperative period.

Methods: Patients were classified according to the OTA/AO Classification using X-ray and computed tomography (CT) scans. Patients with type 43C fractures were included in this study. A total of 98 tibial pilon osteosynthesis surgeries were performed, and 35 cases were selected for this study based on the inclusion criteria. The treatment protocol established was based on the Tscherne Classification.

Results: We observed that immediate skin complications might be a prognostic factor for the late removal of osteosynthesis material (mean=2 years postoperation) because an association was found between skin complications and the removal of osteosynthesis material. We observed a high incidence of late arthritis complications in both groups, which indicates that post-traumatic arthritis associated with 43C pilon fractures is practically certain.

Conclusion: No differences were found between the groups when correlating the American Foot and Ankle Score (AOFAS), the degree of arthritis, and skin complications; therefore, complications did not determine the outcomes of tibial pilon fracture. Although the cartilage damage that occurs at the time of injury is a significant mediator of the clinical outcome, more important factors affect the final treatment outcome. In our study, these factors were the treatment protocol based on soft tissue involvement, anatomical reconstruction of the joint, and rigid internal fixation with early range of motion.

Keywords: Tibial fractures; Intra-articular fractures; Fibula; Open fracture reduction; Surveys and questionnaires.

