

Two-Stage Ankle Joint Arthrodesis in Septic Ankle Joint Arthritis

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Introduction. Septic ankle joint arthritis is a serious and potentially debilitating situation, especially when combined with joint forming bone osteomyelitis and after surgical interventions.

Aim, Material and Methods. The aim of the study was to present results of treatment of case series with 10 complicated patients with septic ankle joint lesions undergoing two-stage ankle joint arthrodesis.

Results. 3 of 10 patients had infection following trauma and surgical manipulations, 7 had chronic ankle joint septic arthritis for longer period of time or haematogenous septic arthritis within arthritic joint. All patients were managed in two-stage fashion with debridement, bone cement with antibiotics implantation, temporary external fixation (ExFix) in first stage, and ExFix, bone cement evacuation and arthrodesis in second stage. One patient had soft tissue reconstruction with free flap during the first stage.

Joint infection and adjacent bone osteomyelitis was approved microbiologically or histologically in 8 of 10 and 9 of 10 cases, respectively. Most common microorganism was *Staph.aureus* in 6 of 10 cases, followed by *Coagulase neg. Staph.* in 3 of 10, and *Acinetobacter baumannii* and *Micrococcus* each in one case. In the second stage, tibiototalcalcaneal arthrodesis with nail was performed in 8 of 10 cases and 2 cases with screws. 2 patients later underwent revision arthrodesis surgery with plate fixation and Ilizarov ExFix each in one case. Overall complications were observed in 7 of 10 cases, 4 of them minor with one revision surgery – surgical site haematoma revision, and 3 cases with repeated revisions, including change of cement spacer. At last follow-up, one patient was lost due to his death from unknown reasons, the remaining 9 patients stayed infection free for a minimum of 1.5 years follow-up period with full weight bearing on injured extremity.

Conclusions. Two stage surgical treatment approach in septic ankle joint arthritis is an effective method to solve both bone and joint infection problem and extremity stability issues. In our opinion, this treatment plan is suitable for complicated patients in which one stage approach could be problematic.