

Original Paper

Distraction osteogenesis with AO tubular external fixator in chronic osteomyelitis with huge bone defect

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Abstract

Background and Objective: Chronic osteomyelitis with huge bone defect is one of the most catastrophic problems in long bone fractures. This study was done to evaluate the distraction osteogenesis with AO tubular external fixator in chronic osteomyelitis with huge bone defect.

Methods: In this descriptive study, 12 patients (11 males, 1 woman) with chronic osteomyelitis with huge bone defect underwent distraction osteogenesis with AO tubular external fixator in 5th Azar teaching hospital in Gorgan, Iran. Patients were followed up for 16 months and the onset of re-infection, bone graft, pin loosening, refracture and neurovascular injury were evaluated.

Results: All of fractures were open, due to vehicle accident. The fractures include four legs, seven femurs and one tibial plateau fracture. Primary fixation was done with plate (5 cases), Intramedullary Nail (5 cases) and skeletal traction (2 cases). Mean time onset of fracture to treatment with AO tubular external fixator was 75.5 days. Mean sequestrum length was 8.8 cm which it was in femur 10.71 cm and in leg was 6 cm. Mean overall treatment was 16.08 months or 1.91 month/cm. Re-infection and neurovascular injury were not seen. Eight superficial infections treated with antibiotic and four cases of pin loosening were assembled with pin fixation. Seven cases required bone grafting. Premature consolidation in five cases and deviation of bone transport segment were found in four patients which treated with modification in external fixation.

Conclusion: Distraction osteogenesis using AO tubular external fixator in chronic osteomyelitis with huge bone defect is suitable treatment method, saving the organ and prevents the amputation.

Keywords: Bone fracture, Chronic osteomyelitis, Bone defect, AO tubular external fixator

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