



Limited open reduction is better for simple-distal tibial shaft fractures than minimally invasive plate osteosynthesis

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Genet. Mol. Res. 13 (3): 5361-5368 (2014)
Received May 27, 2013
Accepted October 4, 2013
Published July 24, 2014
DOI <http://dx.doi.org/10.4238/2014.July.24.15>

ABSTRACT. The aim of this study was to compare the effects and indications of minimally invasive plate osteosynthesis (MIPO) and limited open reduction (LOR) for managing distal tibial shaft fractures. A total of 79 cases of distal tibial shaft fractures were treated surgically in our trauma center. The 79 fracture cases were classified into type A, B, and C (C1) according to the Arbeitsgemeinschaft für Osteosynthesefragen (AO) classification, with 28, 32, and 19 cases, respectively. Among the 79 fracture cases, 52 were closed fractures and 27 were open fractures (GUSTILO, I-II). After adequate preparation, 48 cases were treated with LOR and 31 cases were treated with MIPO. All cases were followed up for 12 to 18 months, with an average of 16.4 months. During the follow-up period, 76 fracture cases were healed in the first stage, whereas the 3 cases that developed non-union were treated by changing the fixation device and autografting. For types A, B, and some of C simple fractures (C1), LOR accelerated the fracture healing and lowered the non-union rate. One case suffered from regional soft tissue infection, which was controlled by wound dressing and intravenous antibiotics. Another case that developed local

skin necrosis underwent local flap transplant. LOR promoted bone healing and lowered the non-union rate of several simple-distal tibial shaft fractures. Thereafter, the incidence of soft tissue complication was not significantly increased. However, for complex and comminuted fractures, MIPO was the preferred method for correcting bone alignment and protecting soft tissue, leading to functional recovery.

Key words: Distal tibia shaft fracture; Open reduction; MIPO