

Clinical and Medical Case Reports

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Assessing the therapeutic efficacy of augmentative plate fixation in femur bone nonunion subsequent to intramedullary nailing

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Introduction: Femur is the tallest and one of the firmest bones of the body that is damaged in high energy traumas. Gold standard method for treatment of sub-trochanteric and shaft fractures of the femur is interlocking Intra Medullary nailing Rod (IMR). A new method for reinforcement of stability of these fractures is augmentative plate fixation in addition to IMR. In this study, we aimed to evaluate the results of treatment with this new method in femur bone nonunion.

Material and methods: In a case series study, we studied 28 females and 17 males with age distribution of 19-76 years of old referring to Shohada Hospital of Tabriz that was treated by IMR due to femur fracture and was diagnosed as a nonunion fracture. Statistical analysis was performed by SPSS software package version 16.0 for windows. The p-value less than 0.05 was statistically considered significant in this study.

Results: There were union signs in 41 patients (91.1%) in radiologic findings after 6 months follow up, who were referred with femur fracture non-union that were treated by IMR previously and went under augmentative plate fixation in addition to IMR. Non-union was more prevalent in females, patients with previous history of disease, smokers and patients with oligotrophic type of non-union.

Conclusion: Augmentative plate fixation can be used as an appropriate treatment method in femur fractures non-union in patients treated by interlocking intramedullary nailing rod to avoid instability and rotation. It is advised due to shortening recovery time, faster weight bearing and no need for special instruments.

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