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Evaluation of the Calori et al nonunion scoring system in a retrospective case series.

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Abstract

Nonunion is one of the most challenging orthopedic complications. Although current definitions are accepted, they fail to provide a satisfactory definition of nonunion. Different classifications for nonunion have been described, but these systems did not take all required factors and requirements of nonunion treatment into account for fracture healing. Calori et al recently developed a new comprehensive nonunion scoring system, which takes into account the whole fracture personality that influences non-union. The aim of this study is to evaluate the validity of the Calori et al system in the treatment of nonunions. We retrospectively reviewed our database for lower extremity nonunion from 2002 to 2009. The demographic and clinical data, laboratory, and radiological investigations were collected from medical records and phone interviews. Forty cases were identified: 32 men and 8 women. Mean patient age was 39.75 years (range, 6-102 years). Seventeen were femoral and 23 were tibial. Our patients were divided into 3 groups according to the database treatment: group 1 standard treatment (3 patients), group 2 specialized care and treatment (33 patients), group 3 amputations (4 patients). If we apply the recommended management by Calori et al to our patients, they will be divided into groups similar to the database treatments. Statistical analysis showed significant correlation between our actual treatment and those recommended by the Calori system where the P value was $<.01$. We concluded that the Calori et al scoring system could be valid as a guideline for lower extremity nonunion treatment