

Shock Wave Treatment for Non-Unions – Verona Experience

Author:

Claudio Tuto Maria Guerra, Ernesto Amelio

Institutions:

Shock wave unit – and surgery dept., University Hospital of Verona, Italy.

Device and producing company:

Modulith SLK, Storz Medical AG

Introduction:

We will present our personal experience matured in the treatment of nonunions with extracorporeal shock therapy at the Shock Wave Unit of the University Hospital of Verona (Italy). The evaluation of the results obtained during ten years of treatments provides important data regarding the indications, the protocols of therapy, the prognostic factors and the percentage of successes attended.

Methods:

Our series includes 581 cases of non-union of different bony segments. The introduced data refer to the period between 1997 and 2007 and is related to 482 evaluated cases. The bony segments were: humerus - 30, radius - 70, ulna - 54, carpal scaphoid - 80, hand - 48, clavicle - 7, femur - 64, tibia - 96, fibula - 6, foot - 27.

Results:

Follow up is between a minimum of six months and a maximum of ten years. The shock wave therapy protocol, including number of applications, energy intensity and number of impulses, depends on factors such as duration, localization and seriousness of the non-union.

Discussion:

The percentage of successful treatments has risen considerably over time with notable factor being the type and the localization of the non-union. The therapy has shown a total absence of collateral effects for the reported protocols.

Conclusion:

The analysis of the results obtained during ten years of treatments offers useful information to the expert practitioner in the choice of therapy to undertake for treatment of the non-union. The Authors give an interpretation of the reasons for the failed treatments with regard to some bones districts.