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The stable-functional osteosynthesis of clavicular fractures with external fixator

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Abstract

Background: Over the past two decades has been paid insufficient attention to the treatment of patients with clavicle fractures. Analysis is of the recent available literature and the personal practice allow us to have a special position to this issue, solving the problem of the clavicle fractures treatment with a new and more efficient method.

Material and methods: For a better deduction and appreciation of the fracture fixation methods results we established a task based on the effectiveness evaluation of the external fixator utilization as a way for a stable osteosynthesis of the fragments performance. It was tested experimentally the efficacy of clavicle fragments fixation with different fixators. The experiment was performed at 30 anatomical specimens of clavicle aged from 38 to 70 years. The mechanical force of the osteosynthesised fragments fixation at flexion and stretching was appreciated in the Alfred G. Amsler German machine with a deviation from 0 to 50 Kn/cm and the capacity of a unit equal to 0.5 Kn/cm.

Results: After the application of the stable-functional osteosynthesis method in clavicle fractures treatment with the external fixator's help, the experimental samples prove objectively the qualities of the proposed fixator, which has an essential priority in the mechanical force of fixing the fragments compared to the traditional fixators used in most cases at the patients with clavicle fractures.

Conclusions: The new method of stable-functional osteosynthesis of the clavicle fractures by using the external fixator, which is simple in assembly and manufacture, excludes the shortcomings of the traditional methods of surgical treatment and allows its application at any level of specialized surgical aid.

Key words: osteosynthesis, external fixation, clavicular fractures.