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Abstract, translation from Russia to English

POSSIBILITIES OF CALCANEUS FRACTURE OSTEOSYNTHESIS WITH CANNULATED PLGA SCREWS

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Objective: Define possibilities of the Calcaneus fracture osteosynthesis with cannulated polylactic-co-glycolic acid (PLGA) screws.

Materials and methods: 39 patients with Calcaneus fractures were treated during years 2011-2012, where 70% - patients of young and middle (employable) age. 34 patients were operated, 2 patients withdrew from the operation, 3 patients – conservative treatment after closed reposition of fracture.

The main indication for treatment is the preservation of the Böhler angle as well as the relocation of posterior facet fragments for less than 2 mm. Presence of such co-existing pathologies as peripheral vascular disease, infectious diseases and diabetes are also taken into consideration.
The hospital treatment period was 1-2 days before and 3-6 days after the operation.

Results and discussions: Main distinguishing features, advantages of biodegradable implants usage are:

- No need for re-operation to remove implants.
- Gradual resorption offers the possibility to activate bone union process by gradually growing weight bearing in a fracture zone, thereby creating the best conditions for biomechanical bone remodeling.
- Self-compression characteristics reduce the risk of unstable fixation.
- Isoelasticity: flexibility module is closer to bone compared to metal implants.
- Absence of stress-shield due to the gradual reduction of tension in bone.
- Implants are delivered sterile in an individual package that reduces the risk of cross infection.
- Possibility of using antibacterial covering.

Conclusions: Using bioimplants together with classic osteosynthesis is one of the advanced technologies in traumatology and orthopedics that allows extension of possibilities of the Calcaneus fractures’ surgical fixation. It is possible to use biodegradable screws with the indication in conditions of city trauma in-patient hospital.