

to 3 children, and Gofman device in 4 children and to 6 children with pins and screws, metal plate and screws 2 children. Complications were not found.

**Conclusions:** Osteosynthesis of diaphyseal fractures in multiple injury requires combining materials from internal and external fixation with minimal trauma, lasting attachment, so will be improved the life quality in patients with politrauma.

**Keywords:** open osteosynthesis, politrauma, children.

## EXTERNAL OSTEOSYNTHESIS IN COMBINATION WITH THE USAGE OF THE ARTIFICIAL COMPOSITE BIODEGRADED IMPLANT AT TREATMENT OF PSEUDOARTHROSES AND PATHOLOGICAL FRACTURES AT CHILDREN



**Serghei Litvinov\***, **Nicolai Shavga\*\***, **Nicolae Shavga\*\***

\* "Reaviz" Medical University, Samara, Russia

\*\* State University of Medicine and Pharmacy "Nicolae Testemițanu", Republic of Moldova

**Work's goal:** rising of efficiency of children's treatment with innocent osteal lesions of a locomotorium and the acquired nearthrosis.

**Material and methods.** In Clinic of Vertebrology, Orthopedics and Traumatology of the "N.Gheorghiu" Scientifically-Practical Center of Children's Surgery 39 children, aged between 1,8 and 17 years, with posttraumatic pseudoarthrosis and pathological fractures were operated. The method of treatment consisted in using of an osteosynthesis in the form of applying external fixation devices in combination with intra focal introduction of the biodegraded implant. Biodegraded implant containing 70 - 80% of the salt component in the form of hydroxyapatite crystals with nanoscale (43-45 nm), the rest - the biopolymer (collagen), the composite has a porosity of 70% to ensure the rapid lysis of cells in the body. Material was introduced into the defect as an injection and open way. After applying of the device of external fixation, intra focal endermic puncture by filling of a cavity with material in combinations with an antibiotic for 70% was carried out to patients with pathological fractures against the background of dystrophic osteal cysts-11, fibrous dysplasia-9, acquired nearthrosis: posttraumatic-7 and osteomyelitis-6 consequences. The volume of filled bone's defect varied from 4cm<sup>3</sup> to 200cm<sup>3</sup>. Open surgical intervention with excising of tumor to a healthy tissue and filling of the formed defect with plates with an antibiotic was carried out to 6 patients with pathological fracture against an osteoblastoclastoma, after applying of the device of external fixation.

**Results.** At all patients after 1 year there came full reorganization of the pathological center.

**Conclusion.**

1. Injection introduction of a composite allows providing an adnation of osteal fragments without operation in case of the slowed-down consolidation of fracture or nearthrosis.
2. Biodegraded composite materials have essential advantages in comparison with an allobone (ability to stimulate reparative processes and to be utilized by the organism, development primary micro vascular canal).
3. Composite is capable to provide an angiogenesis in its introduction zone and the accelerated ossification in the field of defect.

**Keywords:** an osteosynthesis, children, a pseudoarthrosis, the biodegraded implant.

## OSTEOSYNTHESIS IN INTRAARTICULAR FRACTURES IN CHILDREN



**Petru Moroz\***, **Argentina Sandrosean\***, **Iuri Sandrosean\*\***, **Valeriu Petrovici\*\*\***, **Alexei Romanenco\*\*\*\***

\*State University of Medicine and Pharmacy "Nicolae Testemițanu", Republic of Moldova

\*\*MSPI IM and C, \*\*\*MSPIDH Soroca, \*\*\*\*MSPIDH Criuleni, Republic of Moldova

**Objective of study.** Intraarticular fractures in children are the most complicated fractures, but failures in diagnosis, treatment tactics and technique of these fractures lead to unsatisfactory results, occurrence of post-traumatic deformities, disorders of function and growth.

**Material and methods.** Over 50 years we have operated approximately 2,000 children with intraarticular fractures, aged between 10 months and 18 years. Over 95% of those operated had complicated elbow fractures and follow-up consequences. The surgical method included: an appropriate approach for perfect adaptation of fragments without muscle and tendon sections, without osteotomies; restoration of traumatized muscles; perfect reposition of fragments; relatively stable and fine