#581 - Experimental Study / Posters

Hystologycal Evaluation Of Use The Antibiotic-Impregnated Bone Allograft On Osteomyelitis Model

Orthopaedics / Musculoskeletal Infections / Infection Of Bone, Joints & Soft-tissue

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Keywords: Osteomyelitis Model, Bone Allografts, Biodegradable Material

Background
Chronic osteomyelitis is a big problem in medicine. Treatment this disease is standing more expensive year by year. Researchers need found a new and modern methods of treat chronic osteomyelitis. Last time very popular is using biodegradable materials. Foreign material is expensive for our country. Our team want to do research that will be safety, useful and cheap for our people.

Objectives
Aim of the study was to evaluate morphological changes of use the antibiotic-impregnated bone allograft on osteomyelitis model.

Study Design & Methods
Animal models with chronic osteomyelitis were established and treated. All the surgical procedures were approved and performed by the Bioethics Committee of NCJSC “Karaganda medical university”. In our research, we used 42 nonbred rabbits. Osteomyelitis was induced by S. aureus in distal part of femur in rabbits. All rabbits were treated with different ways. In group 1, we used bone allograft as a control group. In group 2, bone defects were filled antibiotic-impregnated perforated bone allograft, which was soaked in antibiotic after heat treatment in the apparatus “LOBATOR sd-2”. In group 3, bone defects were filled antibiotic-impregnated perforated bone allograft, which was boiled with antibiotic during heat treatment in the apparatus “LOBATOR sd-2”. In group 4, bone defects were filled with antibiotic-impregnated biodegradable material “PerOssal”. In group 5, bone defects were filled antibiotic-impregnated whole bone allograft, which was soaked in antibiotic after heat treatment in the apparatus “LOBATOR sd-2”. The animals were killed after 6 and 12 weeks, and macropreparates analyzed histomorphometrically.

Results
In group 1, there was saved damage of the bone tissue characterize osteomyelitis. In the remaining groups, where bone allografts and biodegradable material “PerOssal” were used, antibacterial efficacy was evaluated as positive.

Conclusions
Although biodegradable material “PerOssal” appears to be useful in treating chronic osteomyelitis, bone allografts also have shown active bone remodeling in the lesion. In connection with the foregoing, this study requires continuation.

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