NANOCRYSTALLINE HYDROXYAPATITE AND CALCIUM SULPHATE: PEROSSAL ® IN POSTRAUMATIC OSTEOMYELITIS.

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Background. PerOssal® is used for permanent filling or reconstruction of bone defects in osteomyelitis. It is a newly developed synthetic bone replacement material with two outstanding properties: first, it makes available a bone replacement material that after surgical cleaning of the wound can be inserted into even infected bone defects with a simultaneous delivery of antibiotics. Second, it is rapidly and completely absorbable. Thus the defect can be filled quickly with new, autogenous bone and the patient can be spared a further operation to remove the implant. We present our experience in one year.

Material and Methods. Monitored prospective study of patients suffering postraumatic osteomyelitis treated with elective surgery and PerOssal® with local antibiotics from June 2006 to Feb. 2007.

In the following table, it is shown all patients.

Pat.	Age	Localitation	Status Infection	Microorganism
1	46	tibia	Open fracture IIIb	Polymicrobic
2	24	phalange	Acute arthritis-osteomyelitis	*Staphylococcus aureus*
3	45	humerus	Pseudoarthrosis	*Staphylococcus coagulase negative*
4	53	tibia	Acute osteomyelitis	*Staphylococcus epidermidis*
5	47	fibula	Acute osteomyelitis	*Staphylococcus coagulase negative*
6	26	tibia	Acute osteomyelitis	*Staphylococcus aureus/ Staphylococcus epidermidis*
7	22	tibia	Pseudoarthrosis	*Staphylococcus aureus*

Results. We have used PerOssal® with local antibiotics to treat seven patients with postraumatic osteomyelitis. All patients are males. In all patients we knew before surgery the microorganism. They are *Staphylococcus aureus*, 3; Methicillin-resistant *Staphylococcus epidermidis*, 2; *Staphylococcus* coagulase negative, 2 and polymicrobic,1. Patient one was secondary a open fracture, patients 3-7 are in pseudoarthrosis. Patient 2 was acute postraumatic arthritis-osteomyelitis and patients 4-5-6 are acute postraumatic osteomyelitis. All patients received sistemic antibiotic.

All patients are going on with clinical revision.

Conclusion. According to our little experience PerOssal® is technichaly easy to use and it gives us two advantages for the treatment postraumatic osteomyelitis: First, it makes available a bone replacement material after surgical cleaning of the infected wound with a simultaneous delivery of antibiotics. Second, it is rapidly and completely absorbable. Additional studies are needed to support these data.