

# Pasteurized Osteo-articular Autologous Graft for Reconstruction of the Proximal Humerus after Resection of Osteosarcoma

ADEL REFAAT AHMED MD, DMSc

Orthopaedic Oncology, Limb Reconstruction

Alexandria University, EGYPT

## Abstract

**Objectives:** For skeletal reconstruction in surgery for bone tumors, pasteurization of bone has been used with favorable results over other methods of recycling.

**Methods:** Ten patients with osteosarcoma of the proximal humerus were treated by wide margin resection and reconstruction with pasteurized osteo-articular autologous bone graft. They were 7 females and three males, between 7 and 30 years of age who were followed up for at least 3 years (mean, 42 months). The International Society of Limb Salvage graft evaluation method was used for evaluation of the radiographs.

**Results:** Eight patients (80%) had complete incorporation of the graft and two patients (20%) had partial incorporation. Viability of the grafts was evaluated by bone scintigraphy. Of 10 patients evaluated, uptake was detected in 7 patients from approximately 6 months postoperatively after which it increased gradually. The functional results were assessed by the system of the Musculoskeletal Tumor Society, and the mean functional rating was 86%. Seven patients have been disease free and three have died of disease. Resorption of the graft was seen in a single, seven years old patient (10%), no fracture or infection were seen. No local recurrence was detected.

**Conclusions:** These results indicate that pasteurization of bone may be a useful option for reconstruction after resection of osteosarcoma of the proximal humerus. The advantages of extracorporeal pasteurization include convenience of use, avoidance of intraspecies infection and allogenic reactions, and satisfactory bone remodeling.