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Reverse Allograft-Prosthesis Composite with Pectoralis Major Transfer After Shoulder Osteosarcoma

A Case Report

Sergio Benavente, MD, MSc, Joaquín Villagra, MD, and Philippe Valenti, MD

Investigation performed at Clinique Bizet, Paris, France

Abstract

Case report: We present a case of a 30-year-old man with proximal humerus osteosarcoma and periarticular soft-tissue involvement. Severe humeral and glenoid bone loss was observed, with nonfunctional deltoid after limb-sparing resection and a failed attempt of stabilization. The shoulder was reconstructed using a reverse allograft-prosthesis composite, with deltoid reconstruction by pectoralis major transfer.

Conclusions: To the best of our knowledge, this is the first time that this reconstruction technique has been reported in an oncological patient. Favorable clinical and radiological results were achieved at the 24-month follow-up.

The proximal humerus is one of the most common sites for a high-grade malignant bone tumor in adults[1]. In recent years, the amputation rate in such cases has been reduced to ~5%, which should be considered a great achievement. Because of this progress, limb-sparing resections have become the treatment of choice[2]. However, the reconstruction of

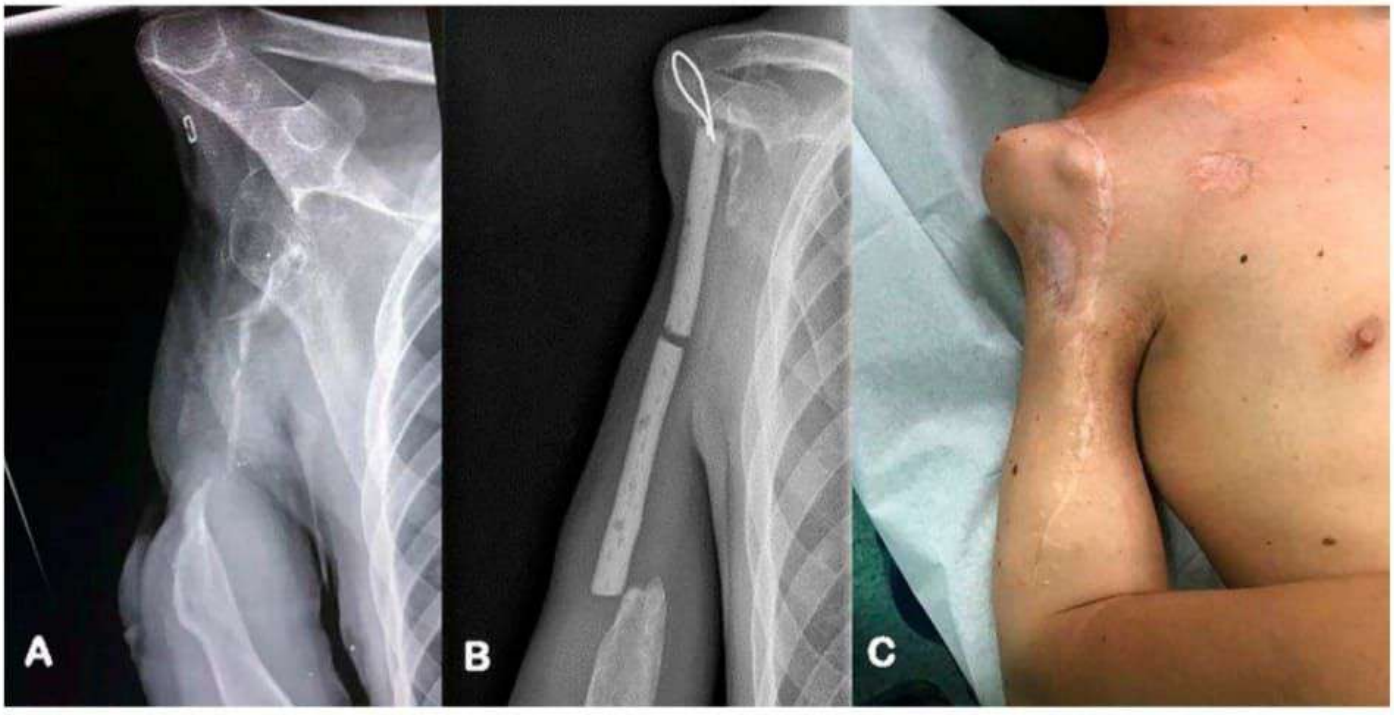


Fig. 1

Fig. 1-A Postoperative x-ray after the resection of the tumor (2009) shows a loss of 18 centimeters of humeral bone substance; **Fig. 1-B** anteroposterior view of the right humerus (2016) with the cement spacers; **Fig. 1-C** physical examination (2018) showing the deformity of the shoulder and the absence of deltoid muscle.

Disclosure: The **Disclosure of Potential Conflicts of Interest** forms are provided with the online version of the article (http://links.lww.com/JBJSCC/B370).