FC-044

Total scapulectomy: is EPR a reasonable option?

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Introduction: Scapular endoprosthetic reconstruction (EPR) as an alternative after scapulectomy for sarcomas has limited indications. We present our experience on total scapulectomy (TS) focusing on functional results and complications in patients treated with humeral suspension versus EPR.

Material and Methods: Between 2000 and 2012 we performed eight TS. Shoulder suspension was done in five cases: four in Malawer type 3 and one Malawer type 4. Three constrained EPRs were performed: two Malawer type 3, and one type 6. Local soft tissue reconstruction was done in all cases but one where we used a pedicled latissimus dorsi muscle-cutaneous flap to cover the defect. For functional results we used MSTS and degrees of flexion and abduction.

Results: There were one extraeskeletal Ewing sarcoma (ES), one fibromixoid low grade sarcoma, two mioephitelial malignant tumour, two ES and two condrosarcomas. All but one were high grade with seven R0 and one R1 margin, which resulted in a malignant myoepithelial tumour. The Enneking stage was as follows: one Ib, six IIb and one stage III with complete remission after neoadyuvant therapy. Four patients are alive and free of disease nowadays. The other four died because of the disease. The range of movement was better in patients with EPR, one with 60? of abduction but MSTS results were similar MSTS. No major surgical complications were observed.

Conclusions: Our study has obvious limitations. It is restrospective and includes few patients with different types of ethiologies. Furthermore, depending on the case, oncologic soft tissue resection was different in terms of post-operative function. EPR is high demanding and may increase the rate of complications, such as infection. Besides, upper limb suspension might cause problems with difficult solution such as brachial plexus traction neuropathy and pathologic fracture of an irradiated collarbone. On the other hand, EPR function seems to be better in terms of range of movement as well as cosmesis. All in all, we think that at least EPR should be considered after total scapulectomy as long as muscle reconstruction is feasible.