

## **Therapeutic approach for infections with massive prostheses after limb salvage for bone sarcomas.**

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With the dramatic improvement of conservative surgery in patients (p.) with bone sarcoma, infection becomes the most serious complication. The aim of this monocentric study is to precise the frequency, the etiologic factors and the therapeutic approach of this bad situation.

### **PATIENTS :**

From 1983 to 2001 oct, we have operated more than 600 p. with bone sarcomas, out of them 452 benefited from skeletal reconstruction with massive prostheses and/or massive allograft. Age of p. was 4,5 to 82 years (mean 24 years). The histology was osteosarcomas (231), Ewing (95), chondrosarcomas (82), fibrosarcomas (23), other tumors in 21. All p. were operated by the surgeon of the team. 320 p. received chemotherapy, and 45 radiotherapy. The mean follow up is 8 ½ years. 42 deep infections led to 1 or more surgical procedures. We have seen also 3 p. for recurrence of deep infection initially treated elsewhere. Alltogether, we have treated 45 deep infections.

### **METHODS :**

4 p. were amputated in emergency. 26 p. were initially operated to clean the prosthesis. Antibiotics were adapted to the germ. When infection remained, removal of the prosthesis was performed with interposition of a spacer with cement loaded with antibiotics. The new prosthesis was placed, when cutaneous and muscular problems were resolved.

### **RESULTS :**

At the last control, 14 were amputated. The other 31 p. benefited from conservative surgery but a new prosthesis could be possible only in 28, following a mean of 4 surgical procedures, and with a result inferior to this obtained with the initial prosthesis. Statistical analysis show the **bad prognostic value** of **radiotherapy**, of **distal locations**, and of **insufficient muscular coverage**.

**CONCLUSION :** Infection of massive prostheses is the most serious orthopaedic complication of limb salvage. Treatment must be preventive, avoiding any radiotherapy and shortening the length of aplasias. **Factors of success are early removal of the prosthesis, improvement of the muscular coverage, and use of effective antibiotic loaded cement.** The role of general antibiotherapy remains unclear.