

**FC-008****High rate of infectious complications after resection/reconstruction of periacetabular primary bone sarcomas****F. Guin**, M. Severyns, S. Briand, S. Touchais, D. Waast, A. Hamel*University of Nantes, Nantes, France*

Resection of primary sarcoma involving acetabular zone is a very challenging operation leading to a high rate of complications that affects post operative treatment and quality of results.

The **aim** of this study was to analyse the rate, impact and risk factors of early deep infection following this surgery.

Material and Patients: Retrospective review of consecutive patients files from a single institution. Resection including the whole acetabulum and metallic device reconstruction (at least for proximal femur). 43 patients were eligible for this study (over 53 patients referred during the same period: 6 patients non operated due to local extension of the tumor, 2 patients had had a hind-quarter amputation and 2 patients a hip transposition with no device for reconstruction). Primary tumor was a chondrosarcoma for 19 patients, an osteosarcoma for 6 patients a Ewing sarcoma for 14 patients and other primary bone sarcomas for 4 patients. There were 14 females and 29 men, 41 years old in average (11 to 76). Deep infection was defined as an infection that required reoperation and positive deep bacteriological specimen. The overall survival rate was 65.6% + 7.5 and 56.3% + 8.2 respectively at 5 and 10 years. No patient was lost of follow-up.

Results: Infection free survival rate was 69.7 % + 7 and 67.1 % + 7 respectively at 6 and 12 months. The species most frequently encountered were bacilli gram negative, coagulase negative staphylococci, and aureus staphylococci and most of infection were polymicrobial (12 over 16). The year following the resection operation, patients infected stayed 45.2 + 4.9 days at the hospital versus 22.6 + 2.6 days for non infected patients ($p < 0.0001$). Infected patients sustained 2 times more operation for orthopaedic reason than non infected patients (4.3 versus 2.03, $p < 0.0001$).

Finally at the last follow-up, 6 (37.5%) over 16 infected patients were alive with chronic infection (or infected when they died from oncologic disease) and infected patients had a lower MSTS functional score (12.5 +2 versus 18.1 + 1.6, $p = 0.055$). The histology type, peri operative chemotherapy, length of the operation and size of the tumor were not associated with a higher risk of post operative infection, but lower number of blood transfused units and younger patients are significantly associated with a lower risk of infection.

Conclusion: As previously reported by others, post operative rate of infection is high after peri acetabular resection and reconstruction for bone sarcoma in our department and is a heavy burden for both medical team and patients. These data is important for decision making process with patients as well as with oncologic colleagues of our multidisciplinary team no to jeopardize the planned multidisciplinary treatment strategy and is a reference for development of new infection prevention strategies in the future.