An analysis of 136 periacetabular resection with reconstruction from two institutions.

Andrea Angelini\(^1\); Odion Binitie\(^2\); Giulia Trovarelli\(^1\); Ilaria Gilda Piraino\(^1\); Douglas Letson\(^2\); Pietro Ruggieri\(^1\);

\(^1\) II Department of Orthopaedics, University of Bologna, Istituto Rizzoli, Bologna, Italy
\(^2\) Department of Orthopedics, Moffitt Cancer Center, Tampa, FL, USA

**Background.** Surgery of pelvic sarcomas shows higher rates of local recurrence and complications and a lower functional outcome than other localizations.

**Purposes.** 1) to assess the outcome and local recurrence rate after limb salvage surgery with reconstruction for periacetabular bone tumors, 2) to analyze complications and their relationship with type of reconstruction.

**Patients and methods:** From 1990 to 2014, 136 patients with periacetabular bone tumors were treated by resection and reconstruction. Mean follow-up was 5.3 years. Chondrosarcoma was the most common histotype (82 cases). Thirtyseven patients had type II resections and combined resections were performed in 31 cases (type I-II), 48 cases (type II-III), 19 cases (type I-II-III). Reconstructions included allograft-prosthetic composite in 65 cases, trabecular metal prosthesis in 4 cases, allograft only in 20 cases, prosthesis only in 33 cases, saddle prosthesis in 13 cases and arthrodesis in one case.

**Results:** Margins were wide in 103 cases, wide but focally contaminated in 17 cases, marginal in 7 cases, intralesional in 9 cases. Oncologic outcome showed: 75 patients CDF, 11 NED after treatment of relapse, 16 AWD, 30 DWD and 4 dead of other causes. Survival was 76% and 67% at 5 and 10 years respectively. Incidence of local recurrence and metastasis was 25% and 32% respectively. Average MSTS score was 21/30. Deep infection was the most common complication (24.3%).

**Conclusions:** Favourable oncologic and functional outcome can be achieved with conservative surgery. Infection is a major complication requiring further surgery. The use of allografts did not increase risk of infection.