

**C-016****Factors predicting functional outcome after malignant pelvic tumor resection****S. Iwata**, F. Giardina, S.R. Carter, R.M. Tillman, A. Abudu, L.M. Jeys, R.J. Grimer*Royal Orthopaedic Hospital, Birmingham, United Kingdom*

Introduction: Malignant pelvic tumor resection is a formidable challenge to surgeon from the viewpoint of not only appropriate surgical margin but also better function. This retrospective study was sought to clarify which factors are associated with functional outcome of the patients who underwent malignant pelvic tumor resection.

Methods: 67 consecutive patients who underwent pelvic tumor resection for malignant tumors at our institute with minimum follow up of 2 years were recruited to this study. Functional outcome of each patient was assessed by Toronto Extremity Salvage Scores (TESS) at several independent time points. Information of tumor- and treatment-related factors were collected from our database and analyzed statistically.

Results: The median patient age at assessment was 53 years old and median duration from the final surgical intervention to final assessment was 7 years. Tumor location (median TESS: periacetabular, 63%; non-periacetabular, 95%; $P < .0001$), final surgical procedure (excision, 95%; reconstruction, 65%; hemipelvectomy, 58%; flail hip, 42%; $P = .0004$), resection area (P1(+4), 94%; P2(+1 or +3), 65%; P3, 100%; P1+2+3(+4), 58%; $P = .0001$), pelvic ring continuity (preserved, 95%; restored, 66%; no, 63%; $P = .0002$), and multiple surgeries (yes, 62%; no, 85%; $P = .0013$) were associated with final TESS. Analysis of TESS transition from earliest and latest assessment with 21 patients revealed that median TESS change was -3% at 17 years. No difference of TESS change was observed in the patients who underwent excision (-6%), reconstruction (-5%), and hemipelvectomy (+4%; $P = 0.63$). Patients with past history of local recurrence demonstrated more deterioration of TESS compared to that with no local recurrence, although it was not statistically significant (yes, -23%; no, -2%; $P = 0.48$).

Conclusion: Periacetabular location, flail hip status, discontinuity of pelvic ring, and multiple surgeries are the unfavorable factors for functional outcome after malignant pelvic tumor resection. Surgical procedure is not associated with long time deterioration of function.