

Postoperative lower limbs functional outcomes in patients of pelvic malignant bone tumor.

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Background: The operation of resection and reconstruction for the pelvic bone tumor is difficult in terms of local control because of the complexity of anatomy, which increase the risk of bleeding and nerve damage. The prognosis and limb function are also much less favorable than for patients with malignant bone tumor of the other extremities.

Purposes: The aim of this study is to evaluate postoperative limbs function in patients of pelvic bone tumor.

Patients and Methods: Subjects were 12 cases for whom follow up observation was possible, from amongst those who underwent resection surgery for malignant bone tumor in pelvis. The average age at the time of surgery was 33.1 ± 4.9 years old and the average post-surgical follow up period was for 186 ± 38.8 months (6-372 months). They include chondrosarcoma in 4 cases, Ewing sarcoma in 3 cases,

osteosarcoma in 2cases, metastasis in 2cases, and malignant fibrous histiocytoma in a case. The limb function measured by MSTS scoring system at the time of final consultation was evaluated with age at the time of surgery, extent of resection, loss of hip function, lack continuity of pelvic ring and leg length inequality. The differences were evaluated using Mann-Whitney's U-test and $p < 0.05$ was considered significant.

Results: The average MSTS score was 22.2 ± 1.6 (15-30), 73.9 ± 5.5 (50-100%). The type of resection classified according to the ISOLS system was P1_ in 3cases, P12_ in 2cases, P23_ in 3cases, P23_P3_ in 2cases, P3_ in a case, P123_ in a case. The MSTS score was significantly higher than others in cases of P1_ ($P=0.02$). It was significantly lower in cases of loss of hip function, lack continuity of pelvic ring and leg length inequality. There was no difference in age.

Conclusions: Conservation or revision of hip function and continuity of pelvic ring was the important factor for postoperative limb function in patients of pelvic malignant bone tumor.