

Functional Outcomes of Internal Hemipelvectomy without Reconstruction for Periacetabular Malignant Bone Tumors

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Background

Reconstruction following periacetabular tumor resection is challenging. Although internal hemipelvectomy without reconstruction has some advantages of low cost, few complications, and shorter rehabilitation time, there are concerns on poor functional results.

Questions/Purposes

Purpose of this study was to evaluate functional outcomes and complications in patients with periacetabular malignant bone tumors treated by internal hemipelvectomy without reconstruction.

Patients and Methods

We retrospectively reviewed medical records of patients with primary malignant or metastatic periacetabular bone tumors were treated by internal hemipelvectomy without reconstruction from 1996 to 2012. Pathologic diagnosis, type of resections, and functional outcome were investigated. Functional outcomes were evaluated with ISOLS revised criteria.

Results

There were 14 patients, 9 males and 6 females. Mean age was 48 years. There were 7 osteosarcomas, 4 chondrosarcomas, 2 metastatic carcinomas and 1 leiomyosarcoma. Types of resections were type I+II+III in 7, type I+II in 3, I+II+III+H in 2, II+III in 1, and II+III+H in 1. Mean follow up period was 28.7 (ranged 6 to 154) months. At last follow up, 7 patients showed CDF status, 1 patient NED, 5 patients AWD and the remaining 1 patient DOD. Mean functional score for pain, functional activity, emotional acceptance, use of external support, walking ability and gait were 4.2, 3.0, 3.1, 1.4, 2.3 and 2.4 respectively. Total functional score ranged from 30% to 73% (average: 54.9%). There were 4 temporary nerve palsies.

Conclusions

Internal hemipelvectomy without reconstruction for selective periacetabular malignant bone tumor cases could be a viable option with fewer complications and fair functional outcomes.

Table 1. Patient details

	Age/ Sex	Diagnosis	Resection type	Functional result (%)	Oncologic outcome	Follow-up (month)
1	41/M	Metastatic	I+II+III+H	37	AWD	12
2	19/M	Osteosarcoma	I+II+III	70	CDF	12
3	17/M	Chondrosarcoma	I+II	73	CDF	154
4	51/M	Metastatic	I+II+III	53	AWD	6
5	68/M	Chondrosarcoma	I+II+III	63	CDF	11
6	17/F	Osteosarcoma	I+II+III	60	DOD	7
7	77/M	Chondrosarcoma	II+III+H	60	CDF	84
8	48/M	Osteosarcoma	I+II+III	63	CDF	15
9	63/F	Osteosarcoma	I+II	33	AWD	12
10	72/F	Chondrosarcoma	II+III	50	NED	11
11	41/M	Leiomyosarcoma	I+II	70	CDF	34
12	65/M	Osteosarcoma	I+II+III	30	AWD	12
13	76/F	Osteosarcoma	I+II+III+H	43	AWD	10
14	17/M	Osteosarcoma	I+II+III	63	CDF	23
Mean				54.9		28.8

M: male; F: female; AWD: alive with disease; CDF: continuous disease free; DOD: died of disease; NED: no evidence of disease.