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Original Article

# Functional Outcomes, Complications and Reconstructive Strategies Following Internal Hemipelvectomy: A Single-Center Experience

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## ABSTRACT

**Objective:** Internal hemipelvectomy is a safe surgical method in the resection of pelvic sarcomas, although it has high complication rates. We aimed to evaluate the complications and functional outcomes of internal hemipelvectomy for malignant pelvic tumors. We also sought to determine the reconstruction strategies used and to identify factors influencing success rates.

**Methods:** A retrospective review was conducted on 43 patients who underwent internal hemipelvectomy between January 2010 and January 2023. Demographic data, tumor characteristics, resection types, reconstruction methods, perioperative variables, and oncological outcomes were analyzed. Surgical margins, complications, implant survival, and functional outcomes were recorded. Functional status was assessed using the Musculoskeletal Tumor Society (MSTS) scoring system. Kaplan–Meier survival analysis was used to estimate overall survival.

**Results:** The mean age was 40.9 years, and the average follow-up duration was 47.2 months. Chondrosarcoma was the most common diagnosis (48.9%). Type II and combined resections accounted for 55.8% of cases. Modular hemipelvic endoprostheses were used in 15 patients, while others underwent biological or cement-based reconstructions. The overall complication rate was 60.4%, with infections (27.9%) and dislocations (20.9%) being the most common. The mean MSTS score among survivors was 18.5, reflecting moderate functional outcomes. Local recurrence occurred in 17% and distant metastasis in 24.4% of patients. The overall survival rate at last follow-up was 51%, and worse outcomes may be associated with larger resections and implant-based reconstructions.

**Conclusion:** Internal hemipelvectomy is a viable limb-salvage option for pelvic tumors but is associated with substantial morbidity. Reconstruction type and resection extent significantly influence postoperative complications and functional outcomes. Careful patient selection and tailored reconstruction strategies are crucial for improving long-term results.

## INTRODUCTION

Internal hemipelvectomy is a preferred but rarely performed procedure in the surgical treatment of orthopedic tumors in the pelvic region.[1,2] This approach aims to reduce local recurrence and metastasis rates, achieve wide resection of the tumor, preserve the functional integrity of the limb, and improve the patient's quality of life.[3,4] Unlike external hemipelvectomy, internal hemipelvectomy allows for regional tumor resection while preserving the limb.[1,2,5]

Pelvic resections are classified into four main types according to the Enneking classification system and can be performed in isolation or in combination.[3] The defects resulting from these resections often necessitate various reconstruction techniques.[5] The choice of reconstruction method depends on several factors, including the location and extent of the resection, the patient's general health status, age, and activity level.[3] Each of these factors must be carefully considered during the surgical planning and execution phases. The primary goals of reconstruction following hemipelvectomy include restoring pelvic stability, preserving limb length and joint function, and minimizing pain.[3,5] To achieve these objectives, various methods such as allografts, autografts, bone cement, implants, prostheses, and their combinations are utilized.[6]

Each of these techniques carries different implications in terms of postoperative complications, functional outcomes, and long-term durability. Due to the anatomical complexity and extensive nature of pelvic surgery, complications such as infection, wound dehiscence, neurovascular injury, implant failure, and local recurrence occur more frequently in pelvic sarcomas compared to other musculoskeletal tumors.[7,8] Furthermore, patient survival, recurrence rates, implant survival, and functional outcomes are of great importance in evaluating treatment success and guiding clinical decision-making.[9]

Despite advances in surgical techniques and adjuvant therapies, the literature reveals significant variability in outcomes among different reconstruction approaches.[3-5] Implant survival rates vary considerably; while prosthetic reconstructions are often associated with issues such as loosening and infection, biological reconstructions may encounter complications like nonunion or resorption.[4,10] Functional outcomes also vary depending on the extent of resection, type of reconstruction, and individual patient factors such as age and comorbidities.[5,8]

This study aims to evaluate the outcomes of resection and reconstruction strategies in patients who underwent internal hemipelvectomy for pelvic bone tumors at a tertiary referral center. A comprehensive analysis will be conducted in terms of postoperative complications, survival rates, local recurrence, implant survival, and functional outcomes. Through this analysis, we aim to contribute meaningfully to the existing literature by identifying optimal reconstruction strategies, improving treatment success, and enhancing patient outcomes in this challenging oncologic population.

## MATERIALS AND METHODS

A total of 55 patients who underwent hemipelvectomy for pelvic bone tumors between January 2010 and January 2023 in our orthopedic oncology department were retrospectively reviewed. The study was approved by the Ethics Committee of Baltalimani Bone Diseases Education and Research Hospital (Date: 26/04/2025, No: 257) and conducted in accordance with the principles of the Helsinki Declaration. Inclusion criteria were patients who underwent internal hemipelvectomy with wide or marginal resection, had a pathological diagnosis of bone sarcoma, metastasis, or benign aggressive tumor, complete clinical, radiological, and histopathological records, and a minimum of 2 years of follow-up or until death. Twelve patients who underwent external hemipelvectomy due to unreconstructable pelvic tumors were excluded. The remaining 43 patients (29 males (67.4%) and 14 females (32.6%) were included in the study.

Patient age at the time of surgery, sex, postoperative follow-up duration, clinical characteristics, histopathological diagnosis, surgical margin status, type of resection, reconstruction methods, neoadjuvant and adjuvant therapies were evaluated using patient records, radiographs, magnetic resonance imaging (MRI) and computed tomography (CT). Tumor size was assessed based on preoperative MRI, and tumor volume was calculated by measuring the maximum diameter in the coronal, sagittal, and axial planes.

The need for blood products (red blood cell suspension, fresh frozen plasma), operative time, and length of hospital stay were obtained from operative and discharge notes. Postoperative complications (infection, wound necrosis, implant failure, prosthesis dislocation) were identified through clinical records. Infections were classified as early (within the first 30 postoperative days) or late (after 30 days), and further categorized as superficial or deep. Functional outcomes were evaluated using the Musculoskeletal Tumor Society (MSTS) scoring system.

The type of resection performed was classified according to the Enneking and Dunham system. Type I resection involved partial or complete removal of the ilium, Type II resection involved periacetabular resection, Type III resection involved resection of the ischium and pubis, and Type IV resection involved sacral resection.[11] Reconstruction methods (allograft, autograft, bone cement, endoprosthesis, spacer, or no reconstruction) were recorded. Neoadjuvant and adjuvant treatments (chemotherapy, radiotherapy, arterial embolization) were obtained from patient records.

Oncological outcomes were evaluated in terms of local recurrence, metastasis, or death. Surgical margins were classified according to the Enneking classification as intralesional, marginal, wide, or radical.

Categorical variables were presented as frequencies and percentages, while continuous variables were expressed as means and standard deviations or medians and min-max ranges, depending on the distribution of the data. Disease-free survival and overall survival rates were analyzed using the Kaplan–Meier survival method. Analyses were performed using SPSS software version 22.0 (SPSS Inc., Armonk, NY, USA).

## RESULTS

The mean age at the time of surgery was 40.9 years (8–88). The mean follow-up was 47.2 months (4–148). Based on closed biopsy results, 21 patients (48.9%) were diagnosed with chondrosarcoma, 5 (11.6%) with pleomorphic sarcoma, 6 (14%) with Ewing sarcoma, 5 (11.6%) with metastasis, 3 (7%) with osteosarcoma, 1 (2.3%) with synovial sarcoma, 1 (2.3%) with giant cell tumor of bone, and 1 (2.3%) with aneurysmal bone cyst (Table 1).

According to the Enneking and Dunham classification system, multiple resection combinations were performed in 19 patients (44.2%). Ten patients (23.4%) underwent Type I hemipelvectomy, five (11.7%) Type II, three (6.9%) Type I–II, eight (18.6%) Type III, five (11.7%) Type I–II–III, seven (16.2%) Type II–III, one (2.3%) Type IV, two (4.6%) Type

**Table 1.** Study data

| Variable | n (%) |
|---|---|
| Sex | |
| Male | 29 (67.4) |
| Female | 14 (32.6) |
| Age (years) | 40.9 (8-88) |
| Follow-up (months) | 47,2 (4-148) |
| Diagnosis | |
| Chondrosarcoma | 21 (48.9) |
| Ewing | 6 (14) |
| Pleomorphic Sarcoma | 5 (11.6) |
| Metastasis | 5 (11.6) |
| Osteosarcoma | 3 (7) |
| Synovial Sarcoma | 1 (2.3) |
| Giant Cell Tumor of the Bone | 1 (2.3) |
| Aneurysmal Bone Cyst | 1 (2.3) |
| Resection type | |
| Type 1 | 10 (23.4) |
| Type 2 | 5 (11.7) |
| Type 3 | 8 (18.6) |
| Type 4 | 1 (2.3) |
| Type 1-2 | 3 (6.9) |
| Type 1-2-3 | 5 (11.7) |
| Type 1-2-4 | 2 (4.6) |
| Type 1-2-3-4 | 2 (4.6) |
| Type 2-3 | 7 (16.2) |
| Adjuvant treatments | |
| Chemotherapy | 18 (41.9) |
| Radiotherapy | 12 (27.9) |
| Preoperative selective arterial embolization | 1 (2.3) |
| Surgical insicion | |
| T incision | 20 (46.5) |
| Ilioinguinal | 23 (53.5) |

I–II–IV, and two (4.6%) Type I–II–III–IV resections (Table 1). Wide en bloc resection was performed in 41 patients (95.3%), while marginal resection was performed in 2 patients (4.7%) diagnosed with giant cell tumor and aneurysmal bone cyst. Pathological examination of resected specimens revealed surgical margins less than 1 cm in 7 of the wide resection cases.

In two patients who underwent Type I hemipelvectomy, non-vascularized fibular grafting was performed (Fig. 1). One of these grafts had to be removed due to deep infection. In two patients with no resulting instability, reconstruction was performed with bone cement, and six patients did not require any reconstruction.

Due to the involvement of the acetabulofemoral joint and its impact on pelvic instability and poor functional outcomes, the 24 patients (55.8%) who underwent Type II resection or its variants were evaluated as a group. In one patient (2.3%) with sacral involvement, posterior lumbopelvic instrumentation with polyaxial screws and rods was performed. Fifteen patients (34.8%) underwent reconstruction with modular hemipelvic endoprostheses (Fig. 2). In the early postoperative period, infection and prosthetic dislocation occurred in two patients. One patient experienced recurrent dislocation and late infection. In three patients, the prosthesis was removed and a spacer was placed. External hemipelvectomy was performed in two patients due to local recurrence. In one patient, the prosthesis was removed and a spacer was placed due to both local recurrence and infection.

Among the eight patients who underwent Type III hemipelvectomy, one received a spacer, which was later removed due to early postoperative infection. In the remaining seven patients, no reconstruction was needed, and no postoperative complications were observed (Fig. 3).

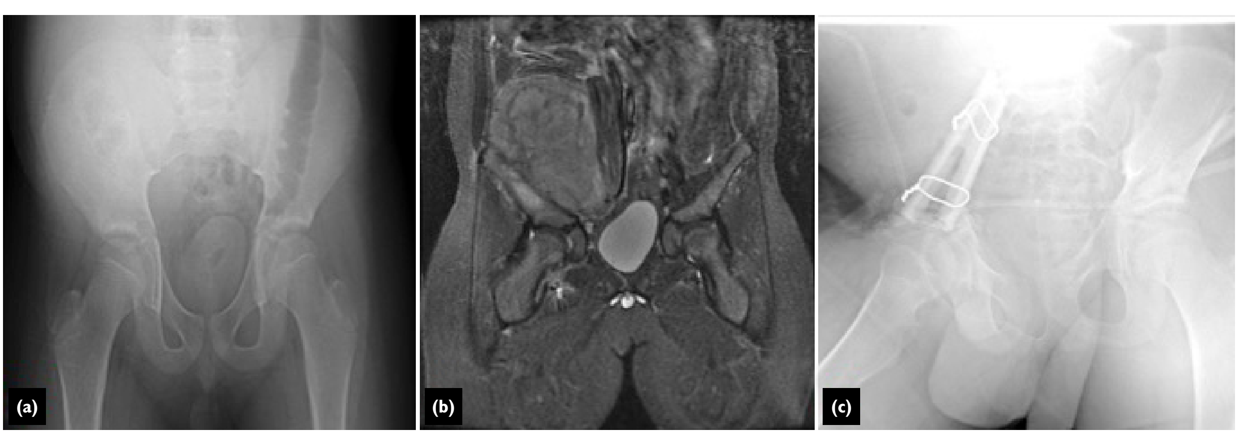


**Figure 1.** (a) Conventional radiograph of the 13-year-old patient diagnosed with Ewing's sarcoma. (b) Preoperative coronal T2-weighted MR image. (c) Conventional radiograph taken following Type 1 internal hemipelvectomy and subsequent non-vascularized reconstruction.

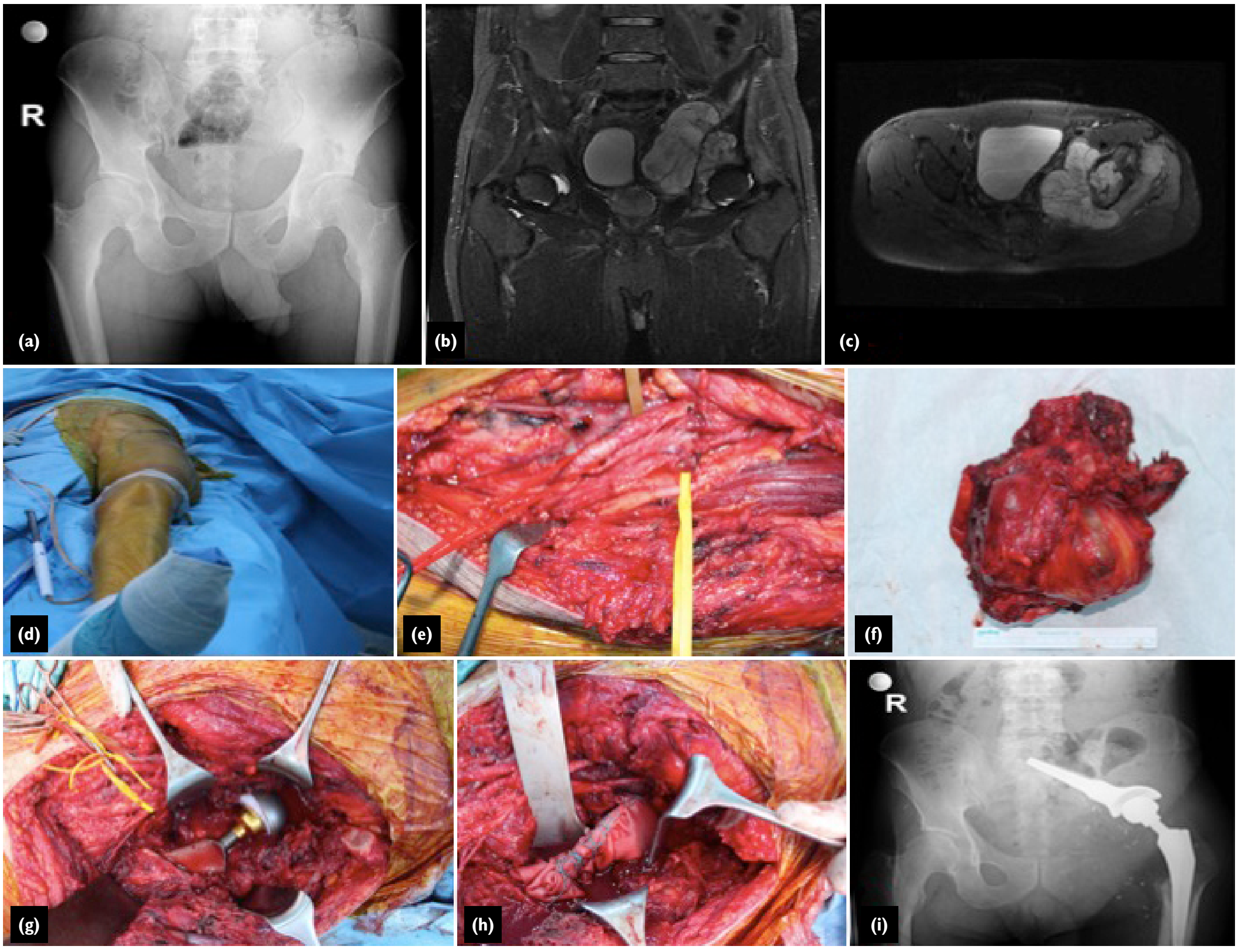


**Figure 2.** **(a)** Conventional radiograph of a 49-year-old patient diagnosed with chondrosarcoma in the left acetabulum. Preoperative **(b)** coronal and **(c)** axial T2-weighted MR images. **(d)** Iliofemoral incision of the patient in the supine position. **(e)** Femoral vein, artery and nerve dissected during surgery. **(f)** Resected tumor. **(g)** Appearance following application of the endoprosthesis. **(h)** Appearance following application of the Trevira tube. **(i)** Conventional radiograph taken following Type 2-3 internal hemipelvectomy and subsequent reconstruction.

In the single patient who underwent Type IV hemipelvectomy, lumbopelvic instrumentation was applied following sacral resection. This patient developed a superficial wound infection in the postoperative period, which was treated with wound debridement and antibiotic therapy (Fig. 4).

Table 2 summarizes the reconstruction methods and complications for each resection type.

Eighteen patients (41.9%) received chemotherapy, twelve (27.9%) received radiotherapy, and one patient (2.3%) underwent preoperative arterial embolization according to the histological tumor type (Table 1).

The mean postoperative transfusion requirements were as follows: Red blood cell suspension, 8.28 units (1–40; n=36); fresh frozen plasma, 4.14 units (1–13; n=28). The mean duration of surgery was 345 minutes (180–720), and the mean hospital stay was 22.2 days (10–98).

At final follow-up, 17 patients (39.5%) had died due to primary tumor or metastasis, and 4 patients (9.5%) due to systemic causes. Thus, 22 patients (51%) were alive at a mean follow-up of 64.7 months (24–148).

Distant metastases of malignant tumors were present in 10 patients (24.4%), while local recurrence was observed in 7 patients (17%). A high rate of morbidity was noted among the operated patients. The mean Musculoskeletal Tumor Society (MSTS) functional score of the 22 surviving patients after a mean follow-up of 64.7 months was 18.5 (10–25).

According to Kaplan–Meier analysis, the estimated mean overall survival was 76.4±8.5 months (95% CI: 33.4-176.5). Survival analysis by histological diagnosis showed a mean survival of 51.5±15.8 months for Ewing sarcoma, 82.1±12.3 months for chondrosarcoma, 58.8±21 months for pleomorphic sarcoma, and 16.3±9.8 months for osteosarcoma.

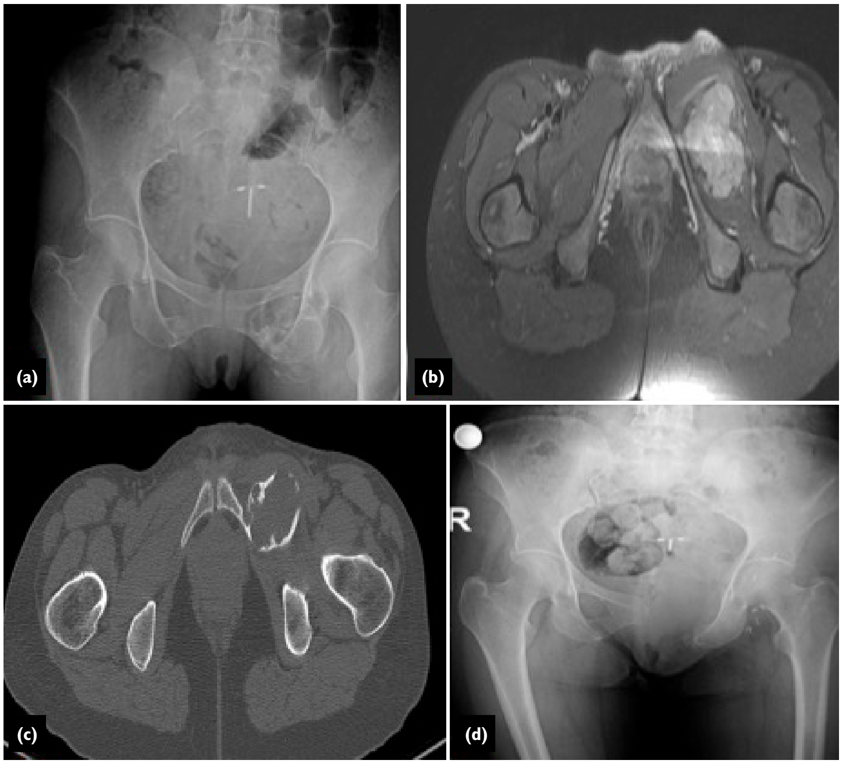


**Figure 3. (a)** Conventional radiograph of a 38-year-old patient diagnosed with chondrosarcoma of the pubic ramus. **(b)** Preoperative axial T2-weighted MR image. **(c)** CT scan displaying the axial plane. **(d)** Conventional radiograph taken following Type 3 internal hemipelvectomy.

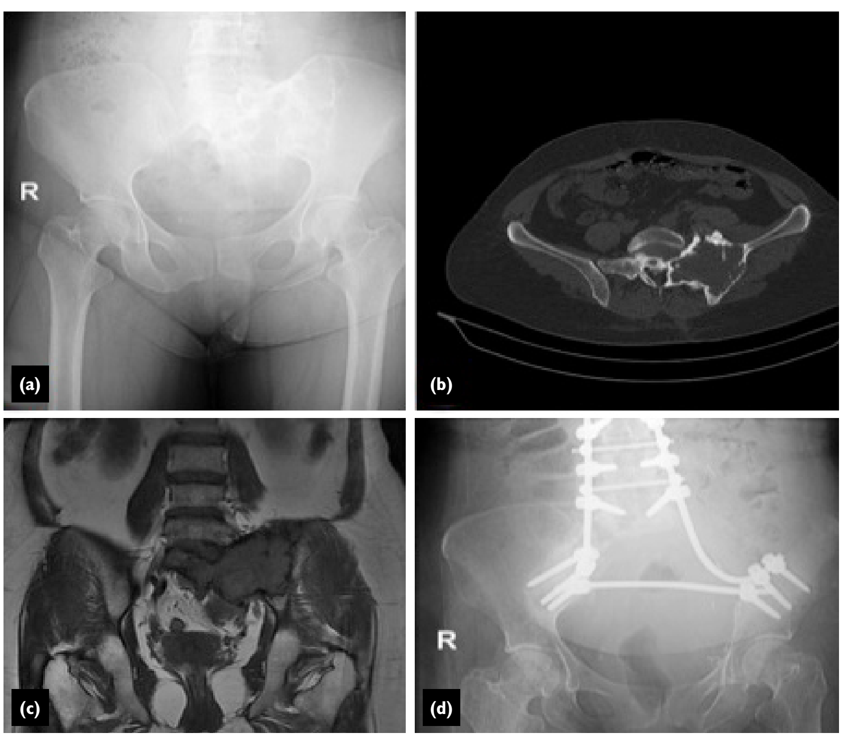


**Figure 4. (a)** Conventional radiograph of the 33-year-old patient diagnosed with giant cell tumor of the sacrum. **(b)** Preoperative CT scan displaying the axial plane. **(c)** Preoperative coronal MR image. **(d)** Conventional radiograph taken following Type 4 internal hemipelvectomy.

**Table 2.** Distribution of reconstruction methods and complications according to resection types

| Resection Type | Reconstruction methods | Major complications | Minor comlications |
|---|---|---|---|
| Type 1 (n=10) | Non-vascularized fibular graft (n=2) | Early deep infection; graft extracted and follow with no reconstruction (n=1) | No complication |
| | Cementation (n=2) | No complication | Superficial wound infection (n=1) |
| | No reconstruction (n=6) | No complication | Wound dehiscence and superficial wound infection (n=1) |
| Type 2 (n=5) | LUMiC® endoprosthesis (n=2) | Recurrent dislocation and late deep infection, prosthesis extracted and follow with spacer (n=1) | No complication |
| | Spacer-vascularized fibular graft (n=1) | No complication | No complication |
| | Cementation (n=1) | No complication | No complication |
| | No reconstruction (n=1) | No complication | No complication |
| Type 1-2 (n=3) | LUMiC® endoprosthesis (n=1) | No complication | No complication |
| | Spacer (n=1) | No complication | No complication |
| | Partial Hip Endoprosthesis (n=1) | Limb length discrepancy (n=1) | Superficial wound infection (n=1) |
| Type 1-2-3 (n=5) | LUMiC® endoprosthesis (n=3) | No complication | Dislocation; treated with closed reduction (n=1) |
| | Spacer (n=1) | Late deep infection; spacer extracted and follow with no reconstruction (n=1) | No complication |
| | Partial Hip Endoprosthesis (n=1) | Limb length discrepancy (n=1) | No complication |
| Type 1-2-3-4 (n=2) | Spacer (n=2) | No complication | No complication |
| Type 2-3 (n=7) | LUMiC® endoprosthesis (n=7) | Local recurrence treated with external hemipelvectomy (n=2)<br>Late deep infection treated with external hemipelvectomy (n=1)<br>Early deep infection; extracted prosthesis and follow with spacer (n=1) | No complication |
| Type 1-2-4 (n=2) | LUMiC® endoprosthesis (n=2) | Dislocation and infection; extracted prosthesis and follow with spacer (n=1) | Marginal necrosis and superficial infection in incision site (n=1) |
| Type 3 (n=8) | No reconstruction (n=8) | Early deep infection treated with spacer (n=1) | No complication |
| Type 4 (n=1) | Lumbopelvic instrumentation (n=1) | No complication | Superficial wound infection (n=1) |

## DISCUSSION

This study evaluated patients who underwent internal hemipelvectomy for pelvic bone tumors over a 13-year period at a tertiary referral center and sheds light on several important findings. Over a mean follow-up of 47.2 months, the overall survival rate was 51%, with a local recurrence rate of 17% and a distant metastasis rate of 24.4%. Complications were common, particularly infections and implant-related issues, reflecting the complex nature of pelvic surgery. The mean Musculoskeletal Tumor Society (MSTS) score of 18.5 among surviving patients indicates moderate functional outcomes, highlighting the difficulty in balancing oncologic resection with limb preservation.

Resection of pelvic malignancies via internal hemipelvectomy carries risks of infection, soft tissue complications, prosthetic failure, and local recurrence. The risk of postoperative complications after pelvic resections is reported to range from 30% to 50%.[3,12,13] Appropriate reconstruction strategies are crucial to reduce these risks.[14] In our series, early infections were observed in three patients who underwent modular hemipelvic endoprosthesis reconstruction, while one developed late infection and recurrent dislocations, necessitating prosthesis removal and spacer placement. One patient underwent external hemipelvectomy due to persistent late infection. In another patient who received a non-vascularized fibular graft, the graft was removed due to deep infection. The high morbidity rate observed in our study, particularly infections and implant-related complications, is consistent with the literature.

[3,7,15] Our mean operative time of 345 minutes and mean red blood cell transfusion requirement of 8.28 units highlight how prolonged surgeries and blood loss may increase infection risk.[13,14]

Combined treatment involving internal hemipelvectomy and chemotherapy or radiotherapy has shown superior survival, lower local recurrence, and fewer complications compared to external hemipelvectomy in the surgical treatment of pelvic malignancies,[16,17] while also improving quality of life. External hemipelvectomy, which includes amputation of the pelvis and ipsilateral lower limb, may be necessary when limb-salvage is not feasible.[5] Although safe and wide tumor margins can be achieved through amputation, limb-sparing internal hemipelvectomy with pelvic reconstruction remains the standard approach to minimize the functional, cosmetic, and psychological impact.[18] Generally, survival in patients with pelvic tumors is worse than for those with extremity tumors,[19,20] likely due to delayed symptom onset, resulting in later diagnosis and larger tumors. Literature suggests no significant difference in survival between limb-sparing surgery and amputation for malignant bone tumors, supporting the use of limb-sparing procedures even in advanced-stage tumors.[21] In our series, 55 patients underwent hemipelvectomy between January 2010 and January 2023-12 received external and 43 internal (limb-sparing) procedures.

The T-incision approach during internal hemipelvectomy is recommended in pelvic sarcoma patients as it provides better exposure of venous, neural, and intrapelvic structures.[22] In our study, 20 of the 43 patients who underwent Type I or II hemipelvectomy or their variants received T-incision, while 23 underwent standard iliofemoral incision. No significant difference was observed between the two incision types in terms of exploration, postoperative complications, or wound healing, and thus the choice should depend on surgeon preference and experience.

Type I hemipelvectomy is commonly used in the surgical management of primary tumors located in the iliosacral region.[23] However, pelvic ring instability caused by wide bony resections often necessitates reconstruction.[23] Bone defects after Type I resection can be reconstructed with fibular autografts, cortical allografts, or bone cement to improve stability and functional outcomes.[16,24] In our series, only two of the ten patients who underwent Type I resection received fibular graft reconstruction. One of them required graft removal due to early postoperative infection, potentially related to prolonged operative time. No major complications occurred in the eight unreconstructed patients, likely due to smaller resection volumes. These findings suggest that with careful patient selection, non-reconstructed Type I resections may be followed safely while avoiding potential complications such as infection or reconstruction failure.

Type II resections (and variants) involving the periacetabular region are considered the most technically demanding and are associated with the highest complication rates.[25] Multiple reconstruction options exist.[26] In our study, 15 patients underwent modular hemipelvic endoprosthesis reconstruction following Type II or combined resections. Among these, early postoperative infection and dislocation were observed in two patients, while one developed chronic dislocation and late infection consistent with prior literature.[15,27] Endoprostheses were removed and spacers placed in five patients (11.6%).

The mean follow-up duration in our series was 47.2 months (4-148), and the average MSTS score was 18.5 (10-25), which is consistent with previously published data for hemipelvectomy patients.[21,28] Functional outcomes largely depend on the extent of resection and the reconstruction method used. For instance, Type II resections involving the acetabulum (55.8% of patients) were generally associated with lower functional scores due to pelvic instability and altered hip mechanics.

Type III resections, when performed in isolation, typically do not require reconstruction.[16] In our series, one of the eight patients who underwent isolated Type III resection received a spacer, which was later removed due to early infection, and no reconstruction was performed. The remaining seven patients also did not undergo reconstruction, and none developed postoperative complications. Thus, reconstruction may not be essential in isolated Type III resections.

Total sacrectomy is indicated for malignant or aggressive benign lesions of the sacrum.[29] Despite potential complications and the risk of neurological dysfunction, it can improve recurrence-free survival.[30] In our series, one patient underwent Type IV hemipelvectomy and posterior lumbopelvic instrumentation, and developed superficial wound infection, which was successfully managed with systemic antibiotics.

Moreover, we did not perform statistical comparisons between different resection types or reconstruction methods, which is a limitation that weakens conclusions about the optimal surgical approach. Additionally, outcomes based on incision type or specific reconstruction techniques were not systematically compared, representing another limitation of this study. We also acknowledge that our literature comparisons were not exhaustive; a more extensive review of reconstruction techniques in the literature could further contextualize our findings. Despite these limitations, our long-term observations with adequate follow-up provide valuable data to aid surgeons in predicting prognosis and planning appropriate strategies for managing pelvic malignancies. Future studies could focus on developing decision-making algorithms or guidelines to assist surgeons in selecting the most appropriate reconstruction method for each patient.

## Conclusion

The high complication rate following pelvic tumor resection surgery is a major contributor to morbidity and mortality. Factors that may improve surgical outcomes include the surgeon's experience, reduced operative time, optimal soft tissue reconstruction to minimize dead space, meticulous wound care, and appropriate rehabilitation.

Additionally, the selection of the correct reconstruction strategy may significantly influence the success of internal hemipelvectomy.

### Ethics Committee Approval

The study was approved by the Baltalimani Bone Diseases Education and Research Hospital Ethics Committee (Date: 26.04.2025, Decision No: 257).

### Informed Consent

Retrospective study.

### Peer-review

**Externally peer-reviewed.**

### Authorship Contributions

Concept: N.I., O.E.A., B.D.; Design: N.I., O.E.A., B.D.; Supervision: N.I., O.E.A.; Data collection &/ or processing: N.I., B.D.; Analysis and/or interpretation: N.I., O.E.A.; Literature search: N.I.; Writing: N.I.; Critical review: O.E.A.

### Conflict of Interest

None declared.

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## İnternal Hemipelvektomi Sonrası Fonksiyonel Sonuçlar, Komplikasyonlar ve Rekonstrüktif Stratejiler: Tek Merkezli Bir Deneyim

**Amaç:** İnternal hemipelvektomi, pelvik sarkomların rezeksiyonunda güvenli bir cerrahi yöntem olmakla birlikte, yüksek komplikasyon oranlarına sahiptir. Malign pelvik tümörler için internal hemipelvektominin komplikasyonlarını ve fonksiyonel sonuçlarını değerlendirmeyi amaçladık. Ayrıca kullanılan rekonstrüksiyon stratejilerini belirlemeyi ve başarı oranlarını etkileyen faktörleri tanımlamayı hedefledik.

**Gereç ve Yöntem:** Ocak 2010 ile Ocak 2023 tarihleri arasında internal hemipelvektomi uygulanan 43 hasta retrospektif olarak incelendi. Demografik veriler, tümör özellikleri, rezeksiyon tipleri, rekonstrüksiyon yöntemleri, perioperatif değişkenler ve onkolojik sonuçlar analiz edildi. Cerrahi sınırlar, komplikasyonlar, implant sağkalımı ve fonksiyonel sonuçlar kaydedildi. Fonksiyonel durum, Kas-İskelet Sistemi Tümör Derneği (MSTS) skorlama sistemi kullanılarak değerlendirildi. Genel sağkalım oranı Kaplan–Meier analiz yöntemi ile hesaplandı.

**Bulgular:** Ortalama yaş 40.9 yıl, ortalama takip süresi ise 47.2 aydı. En sık görülen tanı kondrosarkomdu (%48.9). Tip II ve kombine rezeksiyonlar olguların %55.8'ini oluşturdu. On beş hastada modüler hemipelvik endoprotez kullanılırken, diğer hastalarda biyolojik ya da çimentolu rekonstrüksiyon uygulandı. Genel komplikasyon oranı %60.4 olup, en sık enfeksiyon (%27.9) ve çıkık (%20.9) görüldü. Hayatta kalanlarda ortalama MSTS skoru 18.5 olarak bulundu ve bu orta düzeyde fonksiyonel sonuçlara işaret etti. Lokal nüks oranı %17, uzak metastaz oranı ise %24.4 olarak saptandı. Son takipte genel sağkalım oranı %51 idi; daha geniş rezeksiyonlar ve implant bazlı rekonstrüksiyonlar daha olumsuz sonuçlarla ilişkili olabilir.

**Sonuç:** İnternal hemipelvektomi, pelvik tümörler için ekstremite koruyucu uygulanabilir bir seçenek olmakla birlikte, önemli morbidite ile ilişkilidir. Rekonstrüksiyon tipi ve rezeksiyonun boyutu, postoperatif komplikasyonlar ve fonksiyonel sonuçlar üzerinde anlamlı etkiye sahiptir. Uzun dönem sonuçları iyileştirmek için dikkatli hasta seçimi ve kişiye özel rekonstrüksiyon stratejileri kritik öneme sahiptir.


**Anahtar Sözcükler:** Hemipelvektomi; pelvis; rekonstrüksiyon stratejisi; rezeksiyon; tümör.