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Tumour surgery in the pelvic region

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During the past ten years the authors operated on 27 tumours of the pelvic region, 12 of them involving the pelvic blade, 6 the periacetabular region, further 9 the os pubis and ischii, respectively. Most of the cases (16) were chondrosarcomas. The mean age of the patients - 13 male and 14 female - was 41 years. As to surgical radicality, 11 wide, 10 marginal and 6 intralesional resections were performed. After a mean follow-up period of 3 years (0.5-11 years) 19 patients are alive and tumour-free, 2 with tumour, 4 have died and 2 have been lost to follow-up. As postsurgical complication a wound-healing disorder and inguinal hernia occurred in 5 cases, surgical field thrombosis with secondary compartment syndrome and renal insufficiency developed in one case. The authors draw attention to the difficulties and indications for pelvic resections (internal hemipelvectomies).

Key words: bone neoplasms; pelvic bones-surgery; hemipelvectomy

Introduction

One of the greatest challenges for tumour surgeons is to operate osseal tumours originating from the pelvic region or soft tissue tumours destructing pelvic bones. The reconstruction following "internal hemipelvectomy", i.e. partial pelvic resection, may be particularly difficult for restoring the walking ability of the patient and for achieving an adequate quality of life.[1]

Methods

Between 1986 and 1995 we performed "internal hemipelvectomy" thus saving the extremity in a total of 27 cases. In our series we had 13 male and 14 female patients; their mean age was 41 years, ranging from 18 to 78 years. In our material an overwhelming majority of tumours was represented by chondrosarcoma (16 patients). In other 4 patients we were compelled to perform a partial pelvic resection due to a giant cell bone tumour. As to surgical radicality, the intervention was wide in 11 cases, in 8 cases at least one surface of the resection was marginal, while in other 2 cases the tumour could only be extirpated in two parts due to its large size, which meant that contaminated marginal resection took place. Intralesional intervention was performed in 6 patients. Reconstruction was done in 3 patients: one patient had pelvic endoprosthesis implanted, while in the other 2 patients we fixed the femoral head to the ileal stump of the acetabular defect by cerclage, and then secured the site with a pelvic plaster.

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Results

Local recurrence was observed in 6 patients. Complications occurred in 8 cases. After a mean follow-up of 3 years, 18 (66%) of our 27 patients are alive and tumour-free; in 6 patients the follow-up period has exceeded 5 years.

Discussion

While one should attempt a complete tumour removal, we should not commence on an operation if the prerequisites are not present. For a proper judgement the up-to-date imaging techniques should be used. In our opinion, hemipelvectomy is indicated in the following cases: 1) if the tumour has invaded along the ischiadic nerve into the gluteal muscles, or the posterior surface of the thigh; 2) if the tumour involves the iliac externa, or the femoral artery and vein and if it extended to the adductors via the adductal canal; 3) if the tumour equally infiltrates the E/I, E/II and E/III regions. Although in this case internal hemipelvectomy can be carried out, there is no possibility of a reconstruction, and the flail hip offers an extremely poor rehabilitation outcome; 4) the age and general condition of the patient should be considered individually.

Opinions in the literature are controversial as regards the reconstruction of the defects. The defect need not be reconstructed if the pelvic arc remains intact, i.e. the 2-finger-thick osseal arc above the ischiadic incision and the acetabulum are not damaged.[2,3]

Conclusion

Among our 27 patients operated on during 10 years, 20 are alive, 18 without a tumour at present. This is an encouraging figure! The prerequisite for the favourable results is to perform surgery for pelvic tumours in well-equipped centres, with experienced multidisciplinary surgical teams including orthopedic, abdominal surgeons, possibly gynecologists and/or urologists as well.

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