Pelvic Ring Tumors. Resection and Reconstruction.

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Introduction
Primary and secondary malignant tumors as well as aggressive benign tumors are relatively common in the pelvic ring. The region II (acetabulum) is the most common, followed by the region I (iliac) and III (rami). The sacrectomy, interfering with the stability of the pelvic ring, needs, most times, some sort of reconstruction. Reconstruction options have evolved but are still a challenge in the pre, intra and post-operative periods.

Materials and Methods
Twenty-five patients underwent pelvic/sacral surgery from 2000 till 2015 in our department. The most common diagnostics were condrosarcoma (n=8), cordoma (n=5), giant cell tumor (n=4), osteosarcoma (n=2) and metastases (n=2). We also had one case of Ewing sarcoma, peripheral nerve sheath sarcoma, condroblastoma and schwannoma. In the tumors in the zone I (n=6), there was the need for reconstruction with allograft or autograft in 3 cases. In the zone II (n=3) we treated the lesions with aggressive curettage. We didn’t need any reconstruction options for the zone III lesions. There was one osteosarcoma involving both the zone I and II, and the patient underwent radical resection and reconstruction with and iliofemoral arthrodesis. There were 5 lesions involving both the zones II and III, and 2 underwent reconstruction with total hip replacement anchored on the remaining ilium. There was one giant cell tumor that invaded both the zone I and IV and was treated with aggressive curettage. The sacrum, zone IV, was the most involved zone, with 7 cases, in which 3 underwent total sacrectomy with iliolumbar reconstruction.

Results
There were 7 curettages and 18 resections, 13 with wide margins, 3 marginal and 2 intralesional. There were 4 infections, all in the sacrectomy patients, 2 resolved and 2 became chronic. Also neurologic sequels were presented in the 3 total sacrectomy patients. One of the pelvic reconstruction failed and there was the need for revision. The relapses occurred in 4 condrosarcomas, 3 of which evolved with lung metastases and death, and 1 had the need for pelvic amputation, and the patient is still alive. There were 3 relapses among the cordomas, and all eventually led to death. Both cases of osteosarcoma evolved with metastases and death. The functional score (American Musculoskeletal Tumor Society) of the patients that survived is, in average, 79% in the 9 patients who underwent some form of resection and 94% in the 8 that underwent aggressive curettage.

Discussion/Conclusion
Pelvic resections carry a high risk of complications. However the challenge for the limb preservation is worth if we take into account the very good functional outcome of the surviving patients. When it is surgically feasible, the histology allows it and the adjuvants are predictably effective, some less invasive surgical treatment should be chosen to try to reduce the morbidity of the procedure.

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