Surgical Excision with Preoperative Embolization for Primary Sacral Tumors

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Surgical excision of sacral tumor is challenging, with multiple complications due to its uncontrollable intraoperative hemorrhage. Preoperative embolization of hypervascular spinal tumors has been known to be helpful for completing tumor resection, but few studies have reported in sacral tumor. We sought to investigate the value of surgical excision with preoperative transarterial embolization for primary sacral tumors and evaluate the outcomes. Data were obtained from a consecutive series of 60 patients with sacral tumor underwent surgical excision assisting by arterial embolization between 1992 and 2007. Evaluation parameters included intraoperative blood loss, transfusion, treatment, local recurrence, and complications associated with surgery. Of sixty patients, thirty-three were female and twenty-seven were male. All tumor masses were resected without intraoperative shock or death cases. The mean intraoperative blood loss was 1168.3 ml (200 to 5700 ml) and the mean transfusion was 5.2 units (0 to 35 units). Radical wide excision was performed in eight cases, marginal excision was performed in thirty-four cases and intralesional excision in the remaining eighteen cases. Mean follow-up was 75.2 months (range, 15 to 180 months). Nineteen (31.7%) patients developed local recurrences. Of the patients with at least second sacral roots and unilateral S3 preserved, 33 (84.6%) had normal bladder and 34 (87.2%) had normal bowel control. Preoperative arterial embolization may significantly reduce intraoperative hemorrhage and has the potential to assist surgeons in completing resection and improving outcomes of these patients.