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abstract

Pelvic Resections in Pediatric Patients with Ewing Sarcoma

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Pelvic Resections in Pediatric Patients with Ewing Sarcoma

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Introduction: To date, the world literature describes very little data on the effectiveness of surgical treatment as part of complex therapy for Ewing sarcomas of the pelvic in the pediatric population.

Methodology: 40 patients diagnosed with Ewing sarcoma of the pelvic aged under 18 years were operated on in the period from 2012 to 2024. The mean age was 12,5 years (2,3-17,4 years), follow-up was 4,1 years (0,5-11,9 years). Distant metastases were detected in 46.1%. Lesions of more than 1 segment of the pelvic or tumor length more than 8 cm were diagnosed in 82.0%. All patients received surgical treatment according to treatment protocols (Euro Ewing 2008 or Ewing 2012), as well as local radiation therapy in the postoperative period.

Results: Combined resection with removal of more than one segment of the pelvic according to the Enneking classification was performed in 77% of patients. The margins were clear in 94.9% of patients. Reconstruction using a synthetic mesh was performed in 10 patients, a screw-rod reconstruction with bone cement - in 12, a custom 3D endoprosthesis in 5, a modular endoprosthesis (“ice cream spoon” type) in 2 patients. No reconstruction was performed in 11 patients. The average functional result according to the MSTS scale was 73% (58-87%).

Event-free survival (EFS) for patients with the non-metastatic disease form was 68±12%, with the metastatic form – 71±11%, overall survival (OS) was 76±13 and 92±8, respectively. When assessing the EFS and OS depending on the initial metastases (p=0.865; p=0.439, respectively) and tumor localization - above and below the midline of the acetabulum (p=0.459; p=0.271, respectively), no statistically significant difference was found.

Conclusion: This work analyzes the use of surgical treatment in pediatric and adolescent patients, demonstrates the possibility of achieving good oncological and functional results.