

Anatomical Lung Resections in Pediatric Oncology Patients

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Anatomical Lung Resections in Pediatric Oncology Patients

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Introduction: Anatomical lung resections in children, from segmentectomy to pneumonectomy, are a rare type of operation in the practice of a pediatric surgeon of an oncological hospital.

Methodology: During the period from January 2012 to October 2024, 57 anatomical resections of the lungs were performed in patients aged from 4 months to 19 years, at the Department of Oncology and Pediatric Surgery of Dmitry Rogachev National Research Center. 38.6% were patients with suspected metastatic disease, which was confirmed in 17. Patients with osteosarcoma were most common (10).

The second group consisted of patients with primary lung and bronchial tumors (17 patients, 29.8%), among them the most common were patients with inflammatory myofibroblastic tumor (IMT, 8 patients). The third group consisted of patients with invasive fungal infection (10) and chronic granulomatous inflammation (4) against the background of leukemia and immunodeficiency. The fourth group consisted of patients with other diseases.

Results: Anatomical segmentectomy was performed in 12 patients (including 2 anatomical resections of the basal pyramid); of these - 3 thoracoscopic operations. Anatomical lobectomy was performed in 37 patients (including 3 lobectomies); of these - 9 thoracoscopic operations (of which 2 conversions). Pneumonectomy was performed in 8 patients. Intraoperative complications were noted in 8.7% of cases; postoperative - in 7.0% of cases. Most patients with primary and secondary lung tumors achieved R0 resection. R2-resection was obtained in 1 patient, R1-resection - in 4 patients.

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Conclusion: Anatomical lung resections are rare types of surgery in childhood and adolescence. They are unique in their kind and require a thorough knowledge of the anatomy of the lung from the operating surgeon, in particular, the structure of the bronchial tree and blood supply, as well as mastery of techniques and methods of reconstructive plastic surgery.