

Clinical outcomes of tracheobronchial compressions after cardiac surgery in children with congenital heart disease

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Introduction. Tracheobronchial compressions complicate treatment of patients with congenital heart diseases (CHD), consequently, requiring special anaesthesia and intensive care.

Objective. The objective of the research was to study clinical outcomes and improve efficacy of diagnostic, anaesthesia and intensive care for the patients with tracheobronchial compressions and CHD.

Methods. The treatment results of 170 patients, who underwent cardiac surgery and had airway compressions, were analyzed retrospectively. All cases of tracheobronchial compressions were confirmed during ICU hospitalization using fibrobronchoscopy and CT.

Results. Most frequently there were revealed tracheal compressions - in 66 patients (38,8%) and left main bronchus compressions - in 49 (28,8%). Most often airway compressions occurred in patients with CHD with pulmonary hypertension (PH) - 46 children (27%). It is more likely for this cohort to have bronchus pathology (65,7%). The longest time of ICU stay was in patients who had left main bronchus compression - 18 [9;36] days. The shortest one was in patients with tracheal and both bronchi compression - 3 [2,7] and 4 [2,11], respectively. The longest time of mechanical ventilation was in the cohort who had CHD with PH and aortic arch pathology - 140,5 [40; 562] hours ($p < 0,05$). The same cohort had the longest time of ICU stay - 23,5 [9;39] days ($p < 0,05$). Correlation between heart failure and time of prolonged ICU stay was lower - ($r = 0,48$), ($p < 0,01$) than it was between time of mechanical ventilation and ICU stay ($r = 0,9$), ($p < 0,01$). The mortality in the course of the study decreased from 9,5% to 3,1%.

Conclusion. Patients who have PH with aortic arch pathology and bronchi compressions have the most complicated course. Comprehensive algorithms for diagnostic and treatment allow to lower mortality.

2008-2017, n=170

