

Background. This study assesses the outcomes of a minimal invasive right vertical axillary thoracotomy approach for repairing various congenital heart defects in the pediatric population in Azerbaijan.

Methods. A retrospective review was conducted on consecutive patients who underwent repair of congenital heart defects using the minimal invasive right vertical axillary thoracotomy approach between April 2022 and December 2023 at our institution. The study involved a total of 40 patients, including 28 with atrial septal defect (ASD), 6 with ventricular septal defect, 4 with sinus venosus type ASD with partial anomalous pulmonary venous drainage (PAPVD), and 2 with atrioventricular septal defect (1 partial type and 1 intermediate type). The incision ranged from 3.0 to 5.0 cm in all patients.



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Results. The median age was 6.5 years (range: 6 months - 13 years). The median weight was 15.5 kg (range: 8-41 kg). The median hospital stay was 4.6 days, with median cardiopulmonary and cross-clamp times of 46 and 22 minutes, respectively. No in-hospital deaths or conversions to median sternotomy occurred. One patient (sinus venosus type ASD + PAPVD) experienced transient atrioventricular block, resolved on the 1st postoperative day with a return to normal sinus rhythm. One patient presented with superficial wound infection. No late deaths or reoperations occurred during follow-up, and there were no surgery-related thoracic deformities or breast asymmetry noted.

Conclusion. The minimal invasive right vertical axillary thoracotomy approach can be safely employed for a broad spectrum of congenital heart defects, yielding excellent cosmetic results. It stands as a good alternative to median sternotomy.