

Congenital cardiac surgery



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Actualizado: hace 10 semanas 5 días

[Thoracoscopic salvage surgery for oesophageal atresia is feasible after previous thoracotomy](#)

Sáb, 06/28/2025 - 10:00

J Pediatr Surg. 2025 Jun 26;162427. doi: 10.1016/j.jpedsurg.2025.162427. Online ahead of print.

ABSTRACT

AIM: To describe the collective experience of six international tertiary paediatric surgery centres performing thoracoscopic salvage surgery for oesophageal atresia.

METHODS: Retrospective review of all neonates undergoing thoracoscopic repair of oesophageal atresia following a previous failed repair via thoracotomy, from September 2018 - May 2024, at 6 international tertiary paediatric surgery centres. Data collected included demographics, co-morbidities, operative details and post-operative clinical course. Results are presented as median with range.

RESULTS: 24 babies were included. Median gestational age was 34 weeks (26-40), birthweight was 1858g (780-3300). 19 were Gross type C (79%), 4 type B (17%), with 1 type A (4%). 7/24 (29%) had thoracoscopic traction sutures, and 2/24 (8%) had a cervical oesophagostomy formed prior to thoracoscopic repair. Definitive thoracoscopic repair was undertaken at 23 weeks (7-116) after initial thoracotomy, at 6 months of age (1-26) and weight of 5340g (1050-1100). Operative time was 245 minutes (120-585). 23/24 (96%) were completed thoracoscopically. Follow-up was 36 months (7-130). 17/24 (71%) developed an oesophageal stricture requiring a median of 5 dilatations (1-45). 2/24 (8%) developed a fistula to the airway. 2/24 (8%) developed significant gastro-oesophageal reflux disease requiring a fundoplication. One patient required an aortopexy and re-do aortopexy for management of tracheomalacia. There was 1 death at 11 months of age (2 months post definitive repair) in a patient with complex congenital cardiac disease. 22/23 (96%) patients are feeding exclusively orally.

CONCLUSION: thoracoscopic salvage surgery in oesophageal atresia when undertaken by experienced surgeons is feasible, safe and with good clinical outcomes.

PMID:[40581151](#) | DOI:[10.1016/j.jpedsurg.2025.162427](#)

Categorías: [Cirugía congénitos](#)

[Gender disparities in authorship in European cardio-thoracic journals](#)

Sáb, 06/28/2025 - 10:00

Eur J Cardiothorac Surg. 2025 Jun 19;ezaf205. doi: 10.1093/ejcts/ezaf205. Online ahead of print.

ABSTRACT

OBJECTIVES: To evaluate gender authorship in two cardio-thoracic surgical journals.

METHODS: We performed a bibliometric analysis of all articles published from 2017 to 2022 in the European Journal of Cardio-Thoracic Surgery and the Interdisciplinary Cardiovascular and Thoracic surgery. For each article, the gender and academic rank of the first, senior and corresponding author was verified by Internet search, email contact or use of the application Genderize.io. Articles were categorized based on topic, type and country of origin. The Cochran-Armitage test was used to evaluate gender authorship trend over time.

RESULTS: 5243 articles were included in the analysis. Women represented 18% of first authors, 7% of senior authors and 13% of corresponding authors and no trend was seen over time. Women represented 16% of first authors and 7% of senior authors in adult cardiac surgery, 23% of first authors and 9% of senior authors in congenital cardiac surgery, and 19% of first authors and 8% of senior authors in thoracic surgery. Male first authors were more frequently full professor (17% vs 5%) and associate professor (16% vs 8%) and male senior authors were more frequently full professor (48% vs 31%) and associate professor (16% vs 8%) compared to female.

CONCLUSIONS: The proportion of female authors is significantly lower than that of male authors in highest-impact European cardio-thoracic surgery journals and no significant increase in female authorship has been demonstrated in recent years. Increasing awareness of gender disparities is essential to facilitate equal career opportunities and academic advancement for women in cardio-thoracic surgery.

PMID:[40581079](#) | DOI:[10.1093/ejcts/ezaf205](#)

Categorías: [Cirugía congénitos](#)

[Acute and Chronic Postsurgical Pain in Children Following Cardiac Surgery: A Cohort Study of Sternotomy and Thoracotomy Surgical Approaches](#)

Vie, 06/27/2025 - 10:00

J Cardiothorac Vasc Anesth. 2025 May 30:S1053-0770(25)00451-3. doi: 10.1053/j.jvca.2025.05.059. Online ahead of print.

ABSTRACT

OBJECTIVES: To evaluate the prevalence of chronic postsurgical pain (CPSP) in children after cardiac surgery.

DESIGN: Cohort study.

SETTING: Quaternary academic pediatric hospital.

PARTICIPANTS: Patients age 6 to 18 years at the time of their surgery and a surgery date ≥ 6 months prior to the study period (June 1, 2014, to November 1, 2021).

INTERVENTIONS: Patients completed 3 validated surveys measuring chronic pain, the impact of pain on quality of life (QoL), and neuropathic pain symptoms. Respondents' medical records were then reviewed for perioperative management.

MEASUREMENTS AND MAIN RESULTS: Pain severity, pain trajectory, and analgesic consumption are described for each comparative group of interest (time period, 2014-2019 vs 2020-2021), intraoperative opioid selection (remifentanyl vs sufentanyl), surgical approach (sternotomy vs thoracotomy), and intraoperative pain management technique (presence/absence of fascial plane block). The response rate was 10%. Reference tables from validated scoring systems were used when available. At the time of survey completion or in the preceding week, 34% reported pain, with none to mild interference in QoL. Twenty percent reported symptoms consistent with neuropathic

pain, with no difference between recipients of sternotomy and recipients of thoracotomy. Patients who received intraoperative remifentanyl had higher pain scores. Single-shot fascial plane blocks reduced postoperative acute pain scores.

CONCLUSIONS: The validated surveys showed a high prevalence of CPSP, including a sizeable proportion of neuropathic pain. The prevalence of CPSP is within the reported prevalence in adults despite a mean study population age of 10 years. This finding encourages improvements in acute pain management, earlier identification of patients with CPSP for management, and further investigation of CPSP after pediatric cardiac surgery.

PMID:[40579245](#) | DOI:[10.1053/j.jyca.2025.05.059](#)

Categorías: [Cirugía congénitos](#)

[Perceived health, psychological distress and quality of life in 8415 adults with congenital heart disease from 32 countries](#)

Vie, 06/27/2025 - 10:00

Heart. 2025 Jun 27;heartjnl-2025-325811. doi: 10.1136/heartjnl-2025-325811. Online ahead of print.

NO ABSTRACT

PMID:[40579215](#) | DOI:[10.1136/heartjnl-2025-325811](#)

Categorías: [Cirugía congénitos](#)

[Perceived health, psychological distress and quality of life in 8415 adults with congenital heart disease from 32 countries](#)

Vie, 06/27/2025 - 10:00

Heart. 2025 Jun 27;heartjnl-2024-325296. doi: 10.1136/heartjnl-2024-325296. Online ahead of print.

ABSTRACT

BACKGROUND: The global prevalence of congenital heart disease (CHD) is increasing. Research on patient-reported outcomes (PROs) predominantly originates from high-income countries, resulting in an incomplete understanding of the true global burden of CHD from the patient perspective. Therefore, we described perceived health, psychological distress and quality of life (QoL) in a large sample of adults with CHD from the globe and explored the relationship between PROs and the income level of the countries.

METHODS: Assessment of Patterns of Patient-Reported Outcomes in Adults with Congenital Heart Disease-International Study II (APPROACH-IS II) represents an international cross-sectional investigation of PROs in 8415 patients from 53 centres across 32 countries. Patients completed questionnaires to measure perceived health status (RAND-12 Health Survey; EuroQOL-5D Visual Analog Scale); depressive symptoms (Patient Health Questionnaire-8, PHQ-8); anxiety (Generalized Anxiety Disorder Scale-7) and QoL (Linear Analog Scale). Gross National Income per capita in US dollars was used for stratifying countries according to income levels.

RESULTS: Large intercountry disparities in PROs were observed. Switzerland demonstrated the highest mean scores for physical functioning, self-rated health and QoL, while Senegal had the lowest scores. Patients from Malta demonstrated the highest mean scores for mental health, and Senegal had the lowest scores. With regard to depressive symptoms and anxiety, Pakistan had the lowest mean scores, while Turkey had the highest scores. Patients from high-income nations reported significantly better physical functioning, mental functioning and QoL.

CONCLUSION: Large intercountry disparities in PROs were observed. APPROACH-IS II is a pioneering international endeavour that comprehensively evaluated PROs among adults with CHD, drawing participants from nations with different income levels.

TRIAL REGISTRATION NUMBER: NCT04902768.

PMID:[40579213](#) | **DOI:**[10.1136/heartjnl-2024-325296](#)

Categorías: [Cirugía congénitos](#)

[Anaesthesia strategies for caesarean section in superior cavopulmonary anastomosis](#)

Vie, 06/27/2025 - 10:00

BMJ Case Rep. 2025 Jun 27;18(6):e264831. doi: 10.1136/bcr-2025-264831.

ABSTRACT

Tricuspid atresia is a complex congenital cardiac anomaly with single ventricle physiology characterised by intracardiac mixing of oxygenated and deoxygenated blood. Managing such parturient demands an in-depth understanding of the cardiac defect, the stage of surgical palliation, functional status, and the cardiovascular impact of pregnancy and labour. This report details a female in her late twenties with tricuspid atresia and hypoplastic right ventricle, previously treated with a bidirectional Glenn shunt, who underwent a successful emergency caesarean section at 34 weeks using neuraxial anaesthesia. The case underscores the anaesthetic challenges and perioperative strategies involved in managing patients with such complex cardiac physiology.

PMID:[40579205](#) | **DOI:**[10.1136/bcr-2025-264831](#)

Categorías: [Cirugía congénitos](#)

[Using 3D Heart Printing for Planning to Repair a Complex Congenital Heart Disease via Minimal Invasive Thoracotomy](#)

Vie, 06/27/2025 - 10:00

JACC Case Rep. 2025 Jun 25;30(16):104200. doi: 10.1016/j.jaccas.2025.104200.

ABSTRACT

BACKGROUND: Cor triatriatum sinister is a rare congenital heart disease that can mimic left atrial obstructive lesions. Symptoms vary based on the severity of obstruction.

CASE SUMMARY: We report a case of a 14-year-old girl with severe exercise intolerance. Echocardiography and computed tomography scan revealed a fibromuscular membrane causing left atrial obstruction and an anomalous venous drainage with a persistent left superior vena cava to the coronary sinus. Surgical intervention is definitive, typically via sternotomy.

DISCUSSION: Given the complexity and lack of expertise in minimal invasive thoracotomy for such lesions, we used 3-dimensional (3D) heart printing for virtual surgical planning. This approach facilitated a safe and precise repair. To our knowledge, this is the first reported case using 3D printing to enable a minimally invasive thoracotomy for cor triatriatum sinister correction.

TAKE-HOME MESSAGES: Minimally invasive approaches should not be dismissed for complex congenital heart defects. Multimodal imaging can enhance surgical feasibility.

PMID:[40579109](#) | DOI:[10.1016/j.jaccas.2025.104200](#)

Categorías: [Cirugía congénitos](#)

[Right Ventricular Outflow Conduit Stenosis After Childhood Ross-Konno Procedure](#)

Vie, 06/27/2025 - 10:00

JACC Case Rep. 2025 Jun 25;30(16):104341. doi: 10.1016/j.jaccas.2025.104341.

ABSTRACT

BACKGROUND: Right ventricle-pulmonary artery (RV-PA) conduit stenosis is a relatively uncommon complication after a childhood Ross-Konno procedure.

CASE SUMMARY: A man in his 20s presented with progressive dyspnea for 1 year. He had previously undergone modified Konno and Ross-Konno procedures for congenital subaortic stenosis followed by pulmonic balloon valvuloplasty for RV-PA stenosis. Echocardiography demonstrated reduced left ventricular ejection fraction, severe pulmonary hypertension, and right ventricular outflow tract obstruction. Cardiac computed tomography revealed right ventricular outflow/conduit stenosis with calcification. Right heart catheterization showed elevated right ventricular outflow/conduit pressure gradient, confirming severe conduit stenosis. He was referred for surgical pulmonic valve and conduit repair.

DISCUSSION: Surgical conduit replacement remains the most definitive treatment strategy in small, calcified conduits. Multimodal imaging strategies aid in comprehensive assessment of anatomy and function of RV-PA conduit and valves to guide intervention strategies in adults with complex congenital heart disease.

PMID:[40579096](#) | DOI:[10.1016/j.jaccas.2025.104341](#)

Categorías: [Cirugía congénitos](#)

[Using Multimodality Imaging and 3-Dimensional Printed Models to Guide Decision-Making for Complex Congenital Biventricular Repair](#)

Vie, 06/27/2025 - 10:00

JACC Case Rep. 2025 Jun 25;30(16):103884. doi: 10.1016/j.jaccas.2025.103884.

ABSTRACT

BACKGROUND: Determining the optimal surgical approach for complex congenital heart disease (CHD) can be challenging using conventional 2-dimensional transthoracic echocardiography (TTE) and cross-sectional imaging, including cardiac magnetic resonance (CMR) and computed tomography.

CASE SUMMARY: An 11-month-old female patient presented with heterotaxy syndrome, dextrocardia, double-outlet right ventricle, and complex pulmonary valve stenosis. Fetal echocardiography and postnatal TTE established the complexity of the cardiac anatomy and led to a multidisciplinary discussion to plan a complex staged cardiac repair.

DISCUSSION: Three-dimensional (3D) printed and virtual heart models, along with CMR angiography, provided detailed anatomical visualization and spatial conceptualization, which aided in assessing the feasibility of a staged biventricular repair. Postoperative CMR guided subsequent surgical procedures, evaluated newly created structures such as baffles, and identified complications.

TAKE-HOME MESSAGE: This case highlights the critical role of multimodality imaging, including advanced imaging with virtual and 3D printed modeling, in surgical planning in a patient with complex CHD.

PMID:[40579094](#) | DOI:[10.1016/j.jaccas.2025.103884](#)

Categorías: [Cirugía congénitos](#)

[Multimodal Imaging Directs Decision Making in Intraseptal L-AAOCA](#)

Vie, 06/27/2025 - 10:00

JACC Case Rep. 2025 Jun 25;30(16):104014. doi: 10.1016/j.jaccas.2025.104014.

ABSTRACT

BACKGROUND: Congenital coronary artery abnormalities represent an uncommon class of congenital heart disease with an associated risk of sudden cardiac death. There is a paucity of data for the evaluation and management of affected patients with an intraseptal course.

CASE SUMMARY: A 27-year-old woman was found to have a single coronary trunk arising from the right sinus with a 2.7 cm intraseptal course of the left main coronary artery. She underwent stress cardiac magnetic resonance and catheterization, to assess for inducible ischemia before surgical repair with transconal unroofing. Her recovery was uneventful, and she remains free of symptoms.

DISCUSSION: Management of congenital coronary artery anomalies requires an exhaustive evaluation. Further studies are warranted to define the ideal work-up, indication, and timing of intervention and the efficacy of medical management in improving symptoms.

TAKE-HOME MESSAGES: Congenital coronary anomalies represent a rare but consequential cause of exertional chest pain. This diagnosis requires multimodal imaging to inform decision making.

PMID:[40579080](#) | DOI:[10.1016/j.jaccas.2025.104014](#)

Categorías: [Cirugía congénitos](#)

[Segmental Pulmonary Hypertension in Complex Congenital Heart Disease: The Role of Multimodality Imaging](#)

Vie, 06/27/2025 - 10:00

JACC Case Rep. 2025 Jun 25;30(16):104249. doi: 10.1016/j.jaccas.2025.104249.

ABSTRACT

BACKGROUND: A 21-year-old male with complex congenital heart disease (pulmonary atresia with intact ventricular septum and major aortopulmonary collateral arteries [MAPCAs]) was seen in our outpatient clinic. Diagnosed shortly after birth, the patient underwent Rashkind atrial septostomy and was deemed amenable to surgical correction/partial unifocalization or palliative intervention.

CASE SUMMARY: On examination, the patient was cyanotic with no signs of heart failure. Multimodality imaging showed MAPCAs from the aorta to the pulmonary circulation with a variable degree of stenosis suggestive of segmental pulmonary hypertension (PH). The decision of the multidisciplinary meeting was for a conservative approach and close monitoring with the potential of palliative interventions if there is a deterioration in patients' functional status.

DISCUSSION: Segmental PH presents a complex scenario, necessitating multimodality imaging for therapeutic considerations.

TAKE-HOME MESSAGE: In cyanotic congenital heart disease, the presence of MAPCAs and segmental PH presents a complex scenario, necessitating multimodality imaging.

PMID:[40579077](#) | DOI:[10.1016/j.jaccas.2025.104249](#)

Categorías: [Cirugía congénitos](#)

[Bronchoscopic Management of Central Airway Obstruction in Children after Heart Surgery](#)

Vie, 06/27/2025 - 10:00

Thorac Cardiovasc Surg. 2025 Jan;73(S 03):e39-e45. doi: 10.1055/a-2635-3320. Epub 2025 Jun 27.

ABSTRACT

Central airway stenosis following congenital heart malformation surgery is a rare but significant cause of postoperative weaning failure. In selected cases, bronchoscopic interventions are effective treatment options for managing these kind of airway obstructions and achieving successful weaning. The data of six pediatric patients who were unable to be weaned from mechanical ventilation due to central airway obstruction following congenital heart malformation surgery were retrospectively analyzed. Rigid and flexible bronchoscopies were performed under general anesthesia for six patients. Six patients (4 males and 2 females; age range: 4 months to 6 years) with an airway obstruction after surgery due to congenital heart malformations included the study. Three patients had an obstruction of the left main bronchus, two of the right main bronchus, and one of bilateral main bronchus. Balloon dilatation was applied to one patient, mechanical dilatation was applied to three patients, and airway stent was applied to two patients. Two of six patients died from nonprocedural causes (acute respiratory distress syndrome due to pneumonia and cardiac arrest due to severe heart failure) and four patients were weaned successfully from mechanical ventilation and they were still alive during the follow-up period. No procedural-related mortality was seen in the study population. In one patient, stent placement could not be performed due to desaturation and hemodynamic instability during the procedure, and in another patient, granulation tissue developed due to a covered metallic stent, and the metallic stent was removed and replaced with a biodegradable stent. In selected cases, bronchoscopic interventions offer efficient approach to managing airway obstructions due to congenital heart malformation surgery.

PMID:[40578812](#) | DOI:[10.1055/a-2635-3320](#)

Categorías: [Cirugía congénitos](#)

[Tailored preoperative assessment in neonatal cardiac surgery: a European Congenital Heart Surgeons Association study](#)

Vie, 06/27/2025 - 10:00

Eur J Cardiothorac Surg. 2025 Jun 3;67(6):ezaf178. doi: 10.1093/ejcts/ezaf178.

ABSTRACT

OBJECTIVES: Current preoperative counselling in neonatal cardiac surgery is mainly focused on the primary procedure. However, other factors must be considered when evaluating the surgical risk of a neonate. We aimed to develop a risk adjustment model to personalize preoperative counselling using data from the European Congenital Heart Surgeons Association Congenital Database (ECHSA-CD).

METHODS: A retrospective, multicentre analysis of the ECHSA-CD dataset was conducted, including 20 687 neonates undergoing cardiac surgery between 2013 and 2022. A risk adjustment model was developed on a training set (70%) and validated on a separate cohort (30%).

RESULTS: A model incorporating age, weight, STAT mortality category and need for cardiopulmonary bypass (CPB) demonstrated good predictive performance. Lower age (≤ 10 days), lower weight (< 2.5 kg), higher STAT category and need for CPB were associated with increased risk of operative mortality. The model's area under the receiver operating characteristic curve was 0.701 in the training set and 0.700 in the validation set, indicating good discrimination. Additionally, the Brier quadratic probability score was 0.08 in both datasets, indicating good calibration.

CONCLUSIONS: This study underscores the importance of patient characteristics in predicting outcomes in neonatal cardiac surgery. The developed risk adjustment model can be used as a tool in preoperative counselling, decision-making and risk stratification for neonates undergoing cardiac surgery. By providing a more accurate estimate of operative mortality, this model can help families make more informed decisions about their child's care and improve the overall quality of care for neonates with congenital heart defects.

PMID:[40577097](#) | DOI:[10.1093/ejcts/ezaf178](#)

Categorías: [Cirugía congénitos](#)

[Right vertical infra-axillary thoracotomy for surgical repair of pediatric ventricular septal defect: A propensity score matched cohort study](#)

Vie, 06/27/2025 - 10:00

Interdiscip Cardiovasc Thorac Surg. 2025 Jun 27:ivaf153. doi: 10.1093/icvts/ivaf153. Online ahead of print.

ABSTRACT

OBJECTIVES: This study sought to evaluate the feasibility and learning curve of right vertical infra-axillary thoracotomy (RVIAT) in surgical closure of VSD.

METHODS: Clinical outcomes in paediatric patients (< 18 years) undergoing VSD surgery between 2018 and 2021 in two tertiary hospitals were retrospectively reviewed. After 1:1 propensity score matching, patients undergoing RVIAT were compared with those undergoing median sternotomy (MS). The learning curve that reflected the number of cases needed to achieve technical proficiency was measured using total operating time as a metric, and was evaluated using a risk-adjusted cumulative sum analysis.

RESULTS: Of the 3515 eligible patients, 2183 (62%) underwent MS and 1332 (38%) underwent RVIAT. After matching, 797 cases in RVIAT and MS group were recorded respectively. Propensity weighting produced excellent balance in patient baseline characteristics including age, weight, and VSD subtypes. There was no between-group difference in postoperative rhythm disturbances (0.6% vs 1.1%; $P = 0.83$), significant residual VSD (0.1% vs 0.4%, $P = 0.62$), and reoperation within postoperative 60 days (0.1% vs 0.9%, $P = 0.07$). RVIAT provided better cosmesis (satisfactory score: 9.21 ± 0.06 points vs 6.98 ± 1.17 points; $P < 0.001$), shorter median length of hospital stay (5.5 days vs 8.0 days, $P < 0.001$), and lower cost (8513.3 ± 3193.2 USD vs 9222.3 ± 2504.9 USD; $P < 0.001$). The surgeons could conquer the early learning phase of RVIAT after performing a mean of 41 operations.

CONCLUSIONS: RVIAT can combine good outcomes with favourable cosmesis in VSD repair, and sufficient exposure to RVIAT procedures is crucial for proficiency.

PMID:[40576448](#) | DOI:[10.1093/icvts/ivaf153](#)

Categorías: [Cirugía congénitos](#)

[Characteristics and risk profile of the over fifty adult congenital heart surgical population, a retrospective cohort](#)

Vie, 06/27/2025 - 10:00

Front Cardiovasc Med. 2025 Jun 12;12:1568920. doi: 10.3389/fcvm.2025.1568920. eCollection 2025.

ABSTRACT

INTRODUCTION: The surgical and medical management of aging patients with adult congenital heart disease (ACHD) continues to innovate to meet the evolving needs of this unique patient population, leading to improved life expectancy and quality of life. However, the ACHD population is characterized by high morbidity and mortality. With this study, we aim to describe patient characteristics and surgical outcomes for the over fifty ACHD cardiac surgical cohort, focusing on risk factors for mortality and major complications.

METHODS: This was a retrospective cohort study including ACHD patients undergoing surgical repair from January 2004 to March 2023. Primary outcome was the composite of severe postoperative complications and secondary outcomes were 1-year mortality, ICU stay and hospital length of stay. Descriptive statistics, univariable and multivariable logistic regression models were used.

RESULTS: In the study period, 1381 patients with ACHD underwent cardiac surgery, of which 292 (20.5%) were over 50 years. In the overall group, the most common primary surgery was pulmonary valve replacement in 411 (29.8%), in the over 50 group this was ASD and VSD repairs in 102 (34.9%). The composite of major postoperative complications was different between the overall group and the over 50 years group (10.7% vs. 13.7%; $P = 0.049$), which in the over 50 group was associated with CPB time (180 min vs. 104 min, OR 1.01; 95%CI 1.00-1.03), and preoperative creatinine levels (84 vs. 77, OR 1.01; 95%CI 1.00-1.03). No difference was seen in 1-year mortality ($P = 0.415$).

CONCLUSION: With careful patient selection and preoperative optimization, surgical risks remain low, even in aging ACHD patients. Although overall mortality rates are low, postoperative complications increase, and patients over 50 with DM, renal failure, long pump runs or postoperative stroke are at highest risk.

PMID:[40574821](#) | PMC:[PMC12198246](#) | DOI:[10.3389/fcvm.2025.1568920](#)

Categorías: [Cirugía congénitos](#)

[Persistent fifth aortic arch in a neonate with interrupted aortic arch: an unexpected intraoperative finding](#)

Vie, 06/27/2025 - 10:00

Interdiscip Cardiovasc Thorac Surg. 2025 Jun 4;40(6):ivaf145. doi: 10.1093/icvts/ivaf145.

ABSTRACT

Persistent fifth aortic arch (PFAA) is a rare variant of the aortic arch that may be associated with coarctation or interrupted aortic arch. We report the case of a neonate initially referred for coarctation repair. After a left thoracotomy was performed, a rare diagnosis of PFAA associated with interrupted aortic arch was made. Despite this unusual anatomy, the repair was successfully performed via a lateral approach. This unusual anatomy of the aortic arch deserves special consideration in case of association with coarctation. Indeed, repair from the side may not be possible due to the common origin of the neck-vessels, and resection should be extended as far as

possible to eliminate remaining ductal tissue and prevent recoarctation.

PMID:[40574475](#) | DOI:[10.1093/icvts/ivaf145](#)

Categorías: [Cirugía congénitos](#)

[The relationship of NOS3 G894 T \(rs1799983\) gene polymorphism in the risk of congenital heart disease: a meta-analysis and bioinformatics study](#)

Jue, 06/26/2025 - 10:00

Naunyn Schmiedebergs Arch Pharmacol. 2025 Jun 26. doi: 10.1007/s00210-025-04252-2. Online ahead of print.

ABSTRACT

Nitric Oxide Synthase 3 (NOS3) G894 T (rs1799983) is an important regulator of cardiac development. Its role in congenital heart disease (CHD) has been extensively studied in recent years, but the results are contradictory. The aim of the present study was to better elucidate the relationship between the NOS3 G894 T gene polymorphism and susceptibility of CHD and its specific subtypes. A comprehensive literature search was conducted across several databases, including PubMed, Embase, Web of Science, Cochrane Library, CNKI, VIP, and Wan Fang. Meta-analysis was carried out using RevMan 5.4 software, and the odds ratio (OR) with 95% confidence intervals (CI) was used as the effect measure. Additionally, bioinformatics analysis was employed to explore the impact of NOS3 gene mutations on tetralogy of Fallot (TOF), using publicly available microarray datasets to assess NOS3 gene expression. Nine studies were included, comprising 1931 CHD cases and 1910 controls. Meta-analysis showed that the NOS3 G894 T polymorphism was associated with an increased risk of CHD in three genetic models: allele model (T vs G, OR = 1.31, 95% CI [1.02, 1.68], P = 0.04), homozygous model (TT vs GG, OR = 1.60, 95% CI [1.13, 2.26], P = 0.007), and dominant model (GT + TT vs GG, OR = 1.44, 95% CI [1.02, 2.05], P = 0.04). Subgroup analyses revealed a strong association with atrial septal defect (ASD), conotruncal defects (CTD), and septal defects, with the most significant correlation found for ASD. The NOS3 G894 T polymorphism was associated with the risk of CHD in ethnic subgroup, increasing the risk of CHD in white race. Bioinformatics analysis did not find significant differences in NOS3 gene expression between individuals with TOF. The NOS3 G894 T (rs1799983) gene polymorphism is significantly associated with the risk of CHD, with notable variations in this association across different regions and ethnic groups. The T allele increases the risk of CHD by 31% compared to the G allele. Additionally, this polymorphism is linked to specific CHD subtypes, especially ASD.

PMID:[40571825](#) | DOI:[10.1007/s00210-025-04252-2](#)

Categorías: [Cirugía congénitos](#)

[Aortic valve surgery in adolescents and young adults: analysis of early operative data from the European Congenital Heart Surgeons Association database](#)

Jue, 06/26/2025 - 10:00

Eur J Cardiothorac Surg. 2025 Jun 3;67(6):ezaf101. doi: 10.1093/ejcts/ezaf101.

ABSTRACT

OBJECTIVES: Aortic valve surgery is a crucial treatment for congenital and acquired aortic disease in adolescents and young adults. This study evaluated outcomes in this group by analysing data from the European Congenital Heart Surgeons Association Congenital Cardiac Database (ECCDB).

METHODS: A retrospective review included patients aged 10-18 years from the ECCDB who

underwent aortic valve surgery between 2013 and 2022. The primary outcome was operative mortality, defined as death within 30 days or during hospitalization. Secondary outcomes included reoperations and postoperative complications. Risk factors for mortality were identified using multivariable logistic regression analysis, and surgical trends were evaluated.

RESULTS: A total of 2129 patients were included, with the majority undergoing valve replacement, followed by valve repair and the Ross procedure. Patients receiving valve replacement were typically older and larger. Over the decade, there was an increase in the use of the Ross procedure. Reoperations were more frequent in the repair group, while postoperative complications were more common in the replacement group. The overall mortality rate was 1.5%. Independent risk factors for mortality included longer cardiopulmonary bypass (CPB) times (odds ratio 1.1, $P < 0.001$) and annulus enlargement (odds ratio 3.8, $P = 0.02$). CPB durations exceeding 240 min increased the risk of death. The Ross procedure, particularly in isolated cases without annulus enlargement, was associated with a low mortality rate of 0.4%.

CONCLUSIONS: Aortic valve surgery in adolescents and young adults is complex, with outcomes influenced by CPB time and annulus enlargement. The Ross procedure shows excellent results despite its technical demands.

PMID:[40569172](#) | PMC:[PMC12208064](#) | DOI:[10.1093/ejcts/ezaf101](#)

Categorías: [Cirugía congénitos](#)

[Eliminating left ventricular outlet stenosis lowers the risk for endocardial fibroelastosis recurrence](#)

Jue, 06/26/2025 - 10:00

Eur J Cardiothorac Surg. 2025 Jun 26;ezaf214. doi: 10.1093/ejcts/ezaf214. Online ahead of print.

ABSTRACT

OBJECTIVES: Patients with endocardial fibroelastosis (EFE) in the setting of congenital critical aortic valve (AoV) stenosis and left ventricular outflow tract obstruction (LVOTO) are at risk for diastolic dysfunction, limiting biventricular circulation. EFE resection is the only available treatment option, but frequently recurs requiring re-resections. We aimed to investigate whether augmentation of a left ventricular outlet stenosis (AoV stenosis \pm LVOTO) with a Ross/Ross-Konno procedure prevents EFE recurrence.

METHODS: Patients born with AoV stenosis \pm LVOTO and treated with primary left ventricular (LV) EFE resection at the study centers from 01/2010 to 12/2021 were included in the study. The inclusion criteria for this retrospective analysis was the presence or absence of a Ross/Ross-Konno procedure for the treatment of a modifiable risk factor of EFE recurrence. Retrospective allocation to either the non-Ross or Ross/Ross-Konno group was carried out accordingly. The primary outcome measure was EFE recurrence.

RESULTS: Ninety-three patients were screened, and 60/93 patients (64.5%) met all inclusion criteria. Within those 60 patients, 5/23 (20.7%) in the Ross/Ross-Konno group had EFE recurrence compared to 23/37 (62.2%) in the non-Ross group (difference = 40.5%, 95% confidence interval: 14.6% to 58.7%, $P = 0.003$), and were less likely to develop EFE recurrence with adjusted hazard ratio of 4.07 (95% CI: 1.38, 12.0, $P = 0.011$) and 3.69 (95% CI: 1.31, 10.42, $P = 0.014$) when including death as a competing event.

CONCLUSIONS: This study found that patients after a Ross/Ross-Konno procedure were less likely to experience EFE recurrence and reinterventions on the LVOT/AoV were significantly reduced. However, patient selection and timing of a Ross/Ross-Konno procedure to prevent EFE recurrence have yet to be identified through prospective trials.

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[A Rare Case of Multiple Large Unruptured Sinus of Valsalva Aneurysms in a Child](#)

Jue, 06/26/2025 - 10:00

World J Pediatr Congenit Heart Surg. 2025 Jun 26:21501351251345790. doi: 10.1177/21501351251345790. Online ahead of print.

ABSTRACT

Congenital sinus of Valsalva aneurysm (SVA) is a rare cardiac anomaly with an incidence ranging from 0.1% to 3.5% of all congenital heart disease. Sinus of Valsalva aneurysm involving more than one sinus of Valsalva is very rare and dangerous. Valve-sparing root replacement is a safe and effective procedure that preserves growth potential for the aortic valve and has some benefits compared with valve replacement. There are limited data on valve-sparing operations in neonates and young children. In this case report, we present the surgical correction of an isolated, unruptured, multiple SVA in a 1.4-year-old child using the Yacoub II valve-sparing procedure.

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