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Original article

Clinical and surgical profile of adults with congenital heart disease undergoing cardiac surgery at a Peruvian referral center

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ABSTRACT

Objective: To describe the clinical and surgical profile and postoperative outcomes of adults with congenital heart disease undergoing cardiac surgery at a national referral center in Peru. **Materials and Methods:** An observational, retrospective, descriptive study was conducted among adults with congenital heart disease who underwent cardiac surgery at a referral center in Perú between May 2022 and July 2025. Diagnoses and surgical procedures were classified according to the Society of Thoracic Surgeons (STS) anatomic categories, and perioperative risk was stratified using the PEACH (PErioperative ACHd Score). **Results:** A total of 117 patients were included, with a mean age of 40 ± 13.8 years; 70.1% were women. Most patients were classified as NYHA functional class II (74.4%), and the predominant diagnosis was septal defects (53.8%), mainly atrial septal defect (46.2%). According to the PEACH Score, 61.5% were categorized as low surgical risk. Primary surgeries accounted for 90.6% of cases; 88.0% of patients required multiple surgical corrections during the same procedure; cardiopulmonary bypass was used in 97.4% of cases. Postoperative mechanical ventilation time had a median of 19.4 hours (IQR: 13.0–25.3), with early extubation (6–24 hours) observed in 62.4% of patients. Prolonged intensive care unit stay (>7 days) occurred in 58.1% of cases. Arrhythmias were the most frequent postoperative complication (31.6%), mainly atrial fibrillation (12 %) and atrial flutter (9.4%). In-hospital mortality was 0.9%. **Conclusions:** Adults with congenital heart disease undergoing cardiac surgery had low in-hospital mortality, although a substantial burden of postoperative complications and prolonged intensive care requirements persisted.

Keywords: Heart Defects, Congenital; Adult; Cardiac Surgical Procedures; Treatment Outcome; Peru (Source: MeSH-NLM).

RESUMEN

Perfil clínico-quirúrgico de adultos con cardiopatía congénita operados en un centro de referencia peruano

Objetivo: describir el perfil clínico-quirúrgico y los desenlaces posoperatorios de adultos con cardiopatía congénita sometidos a cirugía cardíaca en un centro de referencia del Perú. **Materiales y métodos:** estudio observacional, retrospectivo y descriptivo realizado en adultos con cardiopatía congénita sometidos a cirugía cardíaca en un centro de referencia del Perú, entre mayo de 2022 y julio de 2025. Los diagnósticos y procedimientos quirúrgicos se clasificaron según categorías anatómicas de la *Society of Thoracic Surgeons* (STS); el riesgo perioperatorio se estimó mediante el puntaje PEACH (PErioperative ACHd score). **Resultados:** se incluyeron 117 pacientes con una edad media de 40 ± 13,8 años; el 70,1% fueron mujeres. La mayoría presentó clase funcional NYHA II (74,4%) y el diagnóstico predominante fue el defecto septal (53,8%), principalmente la comunicación interauricular (46,2%). Según el puntaje PEACH, la mayoría de los pacientes presentó bajo riesgo quirúrgico (61,5%). Las cirugías primarias representaron el 90,6% de los casos; el 88,0% de los pacientes requirió múltiples correcciones quirúrgicas durante el mismo procedimiento, y el 97,4% requirió circulación extracorpórea. El tiempo de ventilación mecánica posoperatoria tuvo una mediana de 19,4 horas (RIC: 13,0–25,3), con predominio de la extubación temprana entre 6 y 24 horas (62,4%). La estancia prolongada en UCI (>7 días) se observó en el 58,1% de los pacientes. Las arritmias constituyeron la complicación posoperatoria más frecuente (31,6%), destacando la fibrilación auricular (12 %) y el flutter auricular (9,4%). La mortalidad intrahospitalaria fue de 0,9%. **Conclusiones:** los adultos con cardiopatía congénita sometidos a cirugía cardíaca presentaron baja mortalidad intrahospitalaria, aunque persistió una carga importante de complicaciones posoperatorias y requerimientos de cuidados intensivos prolongados.

Palabras clave: Cardiopatías Congénitas; Adulto; Procedimientos Quirúrgicos Cardíacos; Resultado del Tratamiento; Perú (Fuente: DeCS-BIREME).

Introduction

Survival among patients with congenital heart disease (CHD) has increased substantially in recent decades owing to advances in cardiovascular surgery, anaesthesia, perioperative care, and specialised follow-up strategies. This has led to an epidemiological shift towards a growing population of adults with congenital heart disease (ACHD), whose prevalence increased from 4.09 per 1,000 population in 2000 to 6.12 per 1,000 in 2010, with a notable rise in the 26-41-year age group and the emergence of an older cohort with residual or complex congenital lesions [1].

In this context, an increasing number of ACHD require further surgical interventions because of residual lesions, deterioration of previous repairs, or the natural progression of the disease. These reinterventions, often performed in patients with altered anatomy and a history of previous surgery, represent a growing technical and clinical challenge [2,3]. In addition, ageing in this population is associated with the early onset of comorbidities typically seen in adulthood, increasing the complexity of care and reinforcing the need for structured follow-up [4]. International experience has shown that transition programmes and specialised multidisciplinary units improve continuity of care and clinical outcomes; however, these models remain poorly accessible in low-and middle-income countries because of the limited availability of specialised teams and continuous follow-up programmes [5,6].

In Latin America, ACHD care faces additional challenges, including fragmentation of health systems, scarcity of accredited ACHD units, and a lack of systematic epidemiological registries. At the national level, previous studies conducted at the Instituto Nacional Cardiovascular "Carlos Alberto Peschiera Carrillo" (INCOR-EsSalud) have advanced the characterisation of this population through the implementation and adaptation of the standardised Society of Thoracic Surgeons (STS) nomenclature for congenital cardiac surgery. This has represented an essential step towards the development of a systematic database comparable with international registries. These studies mainly reflect the insured population treated at this institution, which limits the generalisability of their findings to the broader Peruvian health system, which is characterised by fragmentation and unequal coverage [7].

ACHD in Peru remains an emerging challenge for the health system, characterised by insufficient transition of care and the absence of consolidated ACHD units. These gaps contribute to late presentation, loss to follow-up, and the need for interventions at advanced stages of disease [8]. This reality is similar to reports from other middle-income countries, where a substantial number of adults first present without previous surgery or with unrepaired heart disease at stages of greater clinical deterioration [9].

Therefore, this study aimed to characterise the clinical and surgical profile and postoperative outcomes of ACHD undergoing cardiac surgery at a national cardiovascular referral centre in Peru.

Materials and methods

Study design

An observational, descriptive, retrospective study was conducted among adult patients with CHD who underwent cardiac surgery at the Instituto Nacional Cardiovascular "Carlos Alberto Peschiera Carrillo" INCOR-EsSalud between May 2022 and July 2025.

Study population

All patients aged 18 years or older with a confirmed diagnosis of CHD who underwent cardiovascular surgery at INCOR during the study period were included, regardless of previous surgical history. Patients with acquired heart disease without an associated congenital malformation, or with incomplete records that precluded an adequate clinical and surgical description, were excluded.

Cases were identified through the INCOR-EsSalud Institutional Registry of Congenital Heart Disease, hosted on the REDCap platform and validated by a multidisciplinary team.

Variables

Demographic variables were collected, including age, sex, and geographical origin; preoperative clinical variables, including New York Heart Association (NYHA) functional class, anaemia classification according to the World Health Organization (WHO) criteria, nutritional status assessed using body mass index (BMI), and perioperative risk according to the PEACH score (10); diagnostic categories, including the STS anatomic category and the main diagnosis of congenital heart disease; surgical characteristics, including primary surgery or reoperation, type of procedure (combined or isolated), use of cardiopulmonary bypass, cardiopulmonary bypass time, aortic cross-clamp time, and use of intraoperative transfusions; intraoperative events related to anaesthesia, including anaphylactic reaction, vascular access problems, arrhythmias, and oral or nasal injury; and postoperative variables, including duration of mechanical ventilation, intensive care unit stay, postoperative complications, hospital readmission within 30 days after surgery, and mortality.

Postoperative complications were defined according to the specifications of the Society of Thoracic Surgeons Congenital Heart Surgery Database (STS-CHSD), version 3.41, and included clinically relevant adverse events occurring from the immediate postoperative period until hospital discharge. In-hospital mortality and 30-day mortality were also recorded.

Clinical follow-up was completed for all patients up to 30 days after the procedure. All operational definitions, clinical variables, and procedures were aligned with the data

specifications and standardised nomenclature of the STS-CHSD, version 3.41, adapted to the institutional context [11].

Procedures or interventions

Surgeries were performed by teams specialised in adult CHD. Institutional protocols were followed for anaesthetic management, cardiopulmonary bypass, and postoperative critical care. Surgical decision-making was agreed upon in multidisciplinary meetings involving cardiology, cardiovascular surgery, anaesthesia, and intensive care teams. Procedures were categorised as isolated when they involved a single main surgical correction, and as combined when two or more corrective interventions were performed during the same operative procedure.

Ethical aspects

The study was conducted in accordance with the ethical principles of the Declaration of Helsinki and institutional regulations for health research. Confidentiality was ensured through coding and anonymisation of the records.

The protocol was submitted to the Research Ethics Committee of the Instituto Nacional Cardiovascular "Carlos Alberto Peschiera Carrillo" INCOR-EsSalud for review and was approved for the retrospective analysis of data through letter No. 0027/2025-CIEI, dated August 27, 2025.

Statistical analysis

Data were exported from the REDCap platform to a statistical analysis dataset. A descriptive and exploratory analysis was conducted. Quantitative variables were expressed as means and standard deviations or as medians and interquartile ranges (IQRs), according to their distribution. Categorical variables were presented as absolute frequencies and percentages.

Results

The study population comprised 117 adult patients with CHD who underwent cardiac surgery during the study period. The mean age was 40 ± 13.8 years, with a predominance of patients aged 18-39 years, who accounted for 52.4% of cases. Women represented 70.1% of the cohort **(Table 1)**. Overall, 41.9% of patients came from Lima, followed by smaller proportions from La Libertad, Ica, Tacna, Piura, and Puno, which together accounted for more than 70% of cases **(Figure 1)**.

In the preoperative clinical assessment, 74.4% (n = 87) of patients were in NYHA functional class II and 24.8% (n = 29) were in NYHA class III, whereas only 0.9% (n = 1) were in NYHA class I. No patients were classified as NYHA class IV. According to the WHO anaemia classification, 83.8% (n = 98) of patients had normal haemoglobin values, whereas 16.2% (n = 19) had anaemia **(Table 1)**.

Table 1. Demographic and clinical characteristics of adult patients with congenital heart disease at INCOR-EsSalud, Peru.

Variables	N (%)
Sex	
Female	82 (70.1%)
Male	35 (29.9%)
Age distribution	
18-39 years	61 (52.4%)
40-59 years	43 (36.8%)
60 years or older	13 (11.1%)
NYHA functional class	
NYHA I	1 (0.9%)
NYHA II	87 (74.4%)
NYHA III	29 (24.8%)
NYHA IV	0 (0.0%)
Anaemia classification according to WHO criteria	
Normal	98 (83.8%)
Mild anaemia	10 (8.5%)
Moderate anaemia	8 (6.8%)
Severe anaemia	1 (0.9%)
Nutritional status according to BMI	
Underweight	6 (5.1%)
Normal weight	49 (41.9%)
Overweight	42 (35.9%)
Obesity	20 (17.1%)
Perioperative risk stratification according to the PEACH score	
Low risk	72 (61.5%)
Intermediate risk	43 (36.8%)
High risk	2 (1.7%)

Source: INCOR-EsSalud Congenital Heart Disease Registry. STS: Society of Thoracic Surgeons.
NYHA: New York Heart Association. INCOR: Instituto Nacional Cardiovascular. WHO: World Health Organization. PEACH score: PErioperative ACHd Score. BMI: body mass index.

Regarding nutritional status assessed by BMI, 41.9% of patients had a BMI within the normal range, 35.9% had overweight, 17.1% had obesity, and 5.1% were underweight **(Table 1)**.

Risk stratification using the PEACH score showed a predominance of patients at low surgical risk, 61.5% (n = 72), followed by intermediate risk in 36.8% (n = 43), whereas only a small proportion were classified as high risk, 1.7% (n = 2).

According to the adapted STS classification, the most frequent diagnostic category was septal defects, accounting for 53.8% (n = 63) of the study population. Within this category, the predominant diagnosis was atrial septal defect, present in 46.2% (n = 54), followed by ventricular septal defect in 6.0% (n = 7) and atrioventricular canal defect in 1.7% (n = 2). The

Department	Nº	%
Lima	49	41,9%
La Libertad	10	8,5%
Ica	7	6,0%
Tacna	6	5,1%
Piura	6	5,1%
Puno	6	5,1%
Cusco	4	3,4%
Junín	4	3,4%
Lambayeque	4	3,4%
Arequipa	3	2,6%
Cajamarca	3	2,6%
San Martín	3	2,6%
Áncash	2	1,7%
Huánuco	2	1,7%
Loreto	2	1,7%
Ucayali	2	1,7%
Amazonas	1	0,9%
Apurímac	1	0,9%
Ayacucho	1	0,9%
Pasco	1	0,9%
Tumbes	0	0,0%
Moquegua	0	0,0%
Madre de Dios	0	0,0%
Huancavelica	0	0,0%

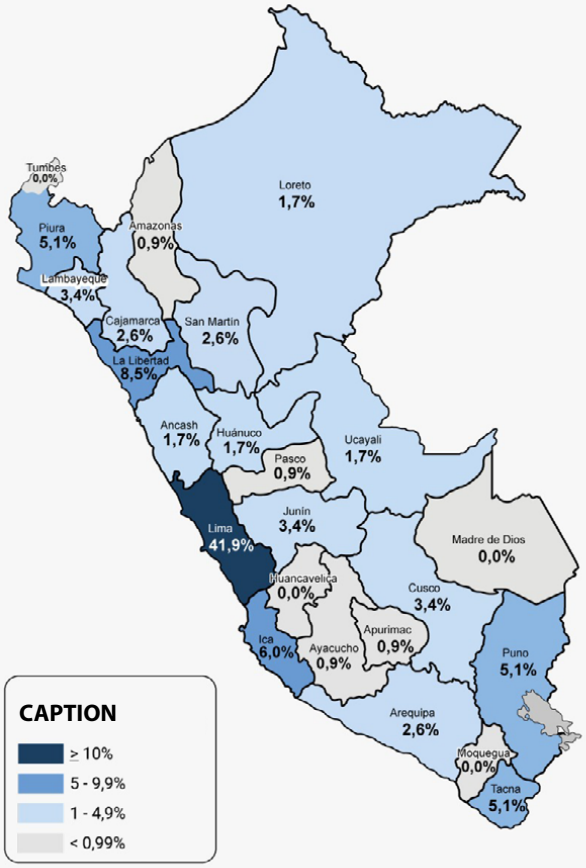


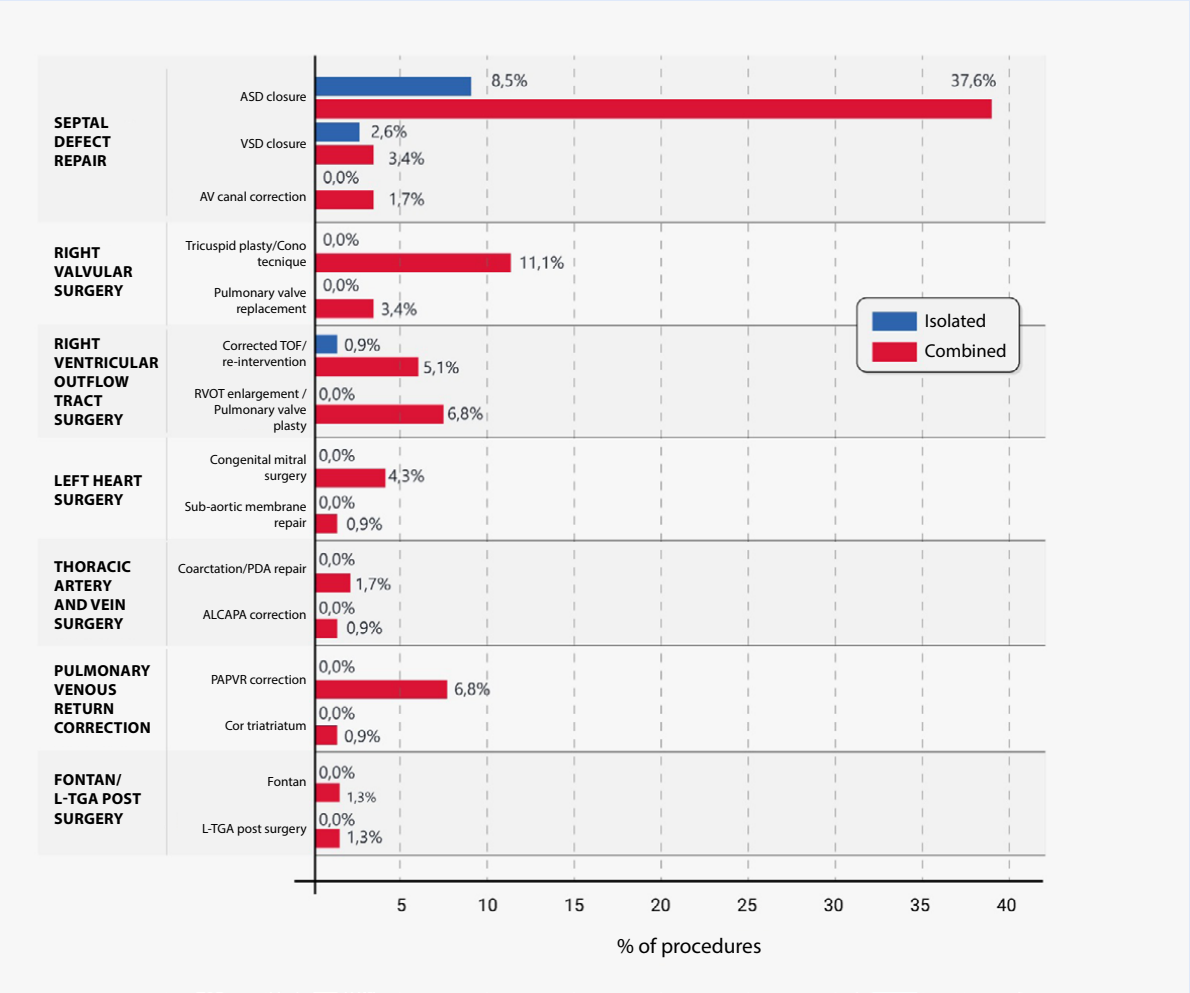
Figure 1. Geographical origin of adult patients with congenital heart disease in Peru (n = 117). INCOR-EsSalud, Peru.

second most frequent diagnostic category was right heart lesions, accounting for 29.9% (n = 35), with Ebstein anomaly as the predominant diagnosis in 11.1% (n = 13), followed by pulmonary stenosis in 6.8% (n = 8) and tetralogy of Fallot in 6.0% (n = 7). Pulmonary venous return anomalies accounted for 6.8% (n = 8), mainly partial anomalous pulmonary venous return. Left heart lesions accounted for 5.1% (n = 6), with congenital mitral valve disease predominating in 4.3% (n = 5). Finally, complex CHD, including patients with postoperative single ventricle after Glenn procedure and postoperative L-TGA, as well as anomalies of the thoracic arteries and veins, mainly represented by aortic coarctation with patent ductus arteriosus and coronary anomalies of the ALCAPA type, were less frequent categories, each accounting for 2.6% (n = 3) of cases.

Regarding surgical characteristics, primary surgeries predominated, accounting for 90.6% (n = 106) of cases, whereas reinterventions represented 9.4% (n = 11). Combined procedures were the most frequent type of surgery, performed in 88.0% (n = 103) of patients, compared with isolated surgeries, which accounted for 12.0% (n = 14) **(Figure 2)**. Most procedures required cardiopulmonary bypass, which was used in 97.4% (n = 114) of cases, whereas only 2.6% (n = 3) were performed without cardiopulmonary bypass, including epicardial pacemaker generator replacement and aorto-subclavian artery bypass. The mean cardiopulmonary bypass time was 136 ± 59 minutes, and the mean aortic cross-clamp time was 87 ± 44 minutes.

Regarding intraoperative transfusion, the most frequently used blood components were platelets in 40.1% (n = 85), followed by packed red blood cells in 23.6% (n = 50), fresh frozen plasma in 20.3% (n = 43), and cryoprecipitate in 16.0% (n = 34).

Regarding anaesthesia-related intraoperative events, no adverse events were reported in 82.9% (n = 97) of procedures. Among recorded events, the most frequent were difficult vascular access in 8.6% (n = 10), arrhythmias after aortic declamping in 3.4% (n = 4), oral or nasal injury with bleeding in 1.7% (n = 2), arterial puncture in 1.7% (n = 2), and anaphylaxis or an anaphylactoid reaction in 0.9% (n = 1).



Source: INCOR-EsSalud Congenital Heart Disease Registry. STS: Society of Thoracic Surgeons. ASD: atrial septal defect. VSD: ventricular septal defect. AV canal: atrioventricular canal. TOF: tetralogy of Fallot. RVOT: right ventricular outflow tract. PAPVR: partial anomalous pulmonary venous return. PDA: patent ductus arteriosus. TGA: transposition of the great arteries.

Figure 2. Surgical procedures in adults with congenital heart disease (N = 117). INCOR-EsSalud, Peru.

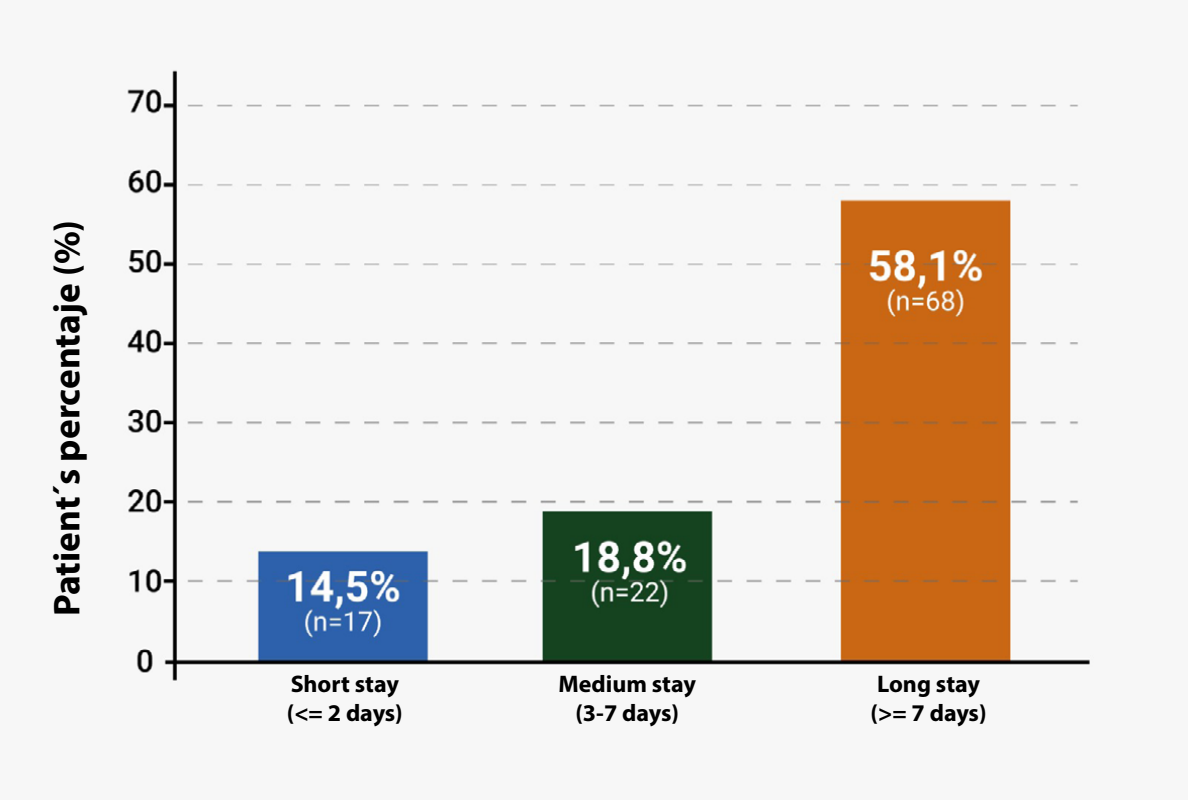
With respect to postoperative variables, the median duration of mechanical ventilation was 19.4 hours (IQR: 13.0-25.3). According to time to extubation, early mechanical ventilation (6-24 h) predominated and was observed in 62.4% (n = 73) of patients, followed by intermediate ventilation (24-72 h) in 17.1% (n = 20) and prolonged ventilation (>72 h) in 11.1% (n = 13). Immediate extubation (<6 h), including patients extubated in the operating room, occurred in 7.7% (n = 9).

Postoperative intensive care unit stay was prolonged (>7 days) in 58.1% (n = 68) of patients; 18.8% (n = 22) had an intermediate stay (3-7 days), whereas 14.5% (n = 17) had a short stay (≤2 days). The median postoperative intensive care unit stay was 9 days **(Figure 3)**.

Regarding postoperative complications, arrhythmias were the most frequent complication occurring in 31.6% of patients, followed by cardiac dysfunction or low cardiac output syndrome in 10.3%, bleeding requiring reoperation and pleural effusion requiring drainage, both in 6.8%, seizures in 6.0%, and acute kidney dysfunction in 5.1% **(Table 2)**. Given that arrhythmias and conduction disorders were among the main postoperative complications, a detailed analysis of their clinical profile was performed. Atrial fibrillation was the most frequent arrhythmia, occurring in 12.0% (n = 14), followed by atrial flutter in 9.4% (n = 11) and complete atrioventricular block in 8.5% (n = 10). In addition, 17.1% (n = 20) of patients required temporary or permanent cardiac pacing.

During 30-day follow-up among patients who survived to hospital discharge, 5.2% (n = 6) required readmission. Arrhythmias were the leading cause of readmission, accounting for 2.6% (n = 3), followed by congestive heart failure in 0.9% (n = 1) and other isolated causes in 1.7% (n = 2).

In-hospital mortality was 0.9% (n = 1), corresponding to the only case that required postoperative Extracorporeal Membrane Oxygenation (ECMO) support. No additional deaths were recorded during the 30 days after discharge.



Source: INCOR-EsSalud Congenital Heart Disease Registry. STS: Society of Thoracic Surgeons. ICU: intensive care unit.

Figure 3. Distribution of intensive care unit stay among adults with congenital heart disease. INCOR-EsSalud, Peru.

Discussion

This study represents the first characterisation of ACHD who underwent surgery at a national referral centre in Peru, using an institutional registry based on the standardised nomenclature of the STS [7]. The findings provide previously unavailable local evidence on the clinical and surgical characteristics and postoperative outcomes of this population, and establish a basis for assessing quality of care and making comparisons with international standards. The broad geographical distribution of the patients treated reflects the role of INCOR-EsSalud as a national referral centre for the care of this population.

The mean age of 40 years and the female predominance observed in this cohort were similar to those reported in other cohorts of ACHD [1,12]. In our series, the high proportion of primary surgeries suggests that a substantial proportion of patients reached adulthood without previous surgical correction, probably because of delayed diagnosis or treatment of less complex congenital lesions.

Most patients were in functional class II at the time of surgery, a finding comparable with that described in international registries and specialised adult CHD centres, including STS-reported series in which patients in NYHA functional classes I-II predominate [13]. However, the concomitant presence of comorbidities such as overweight, obesity, and preoperative anaemia highlights the clinical complexity of this population and underscores the need for a comprehensive multidisciplinary approach to optimise perioperative outcomes.

Consistent with the findings reported by Nasr et al. and Lim et al., septal defects and right heart lesions were the most frequent entities [1,12]. This pattern probably reflects the more favourable clinical course of these heart defects compared with complex congenital forms, allowing more patients to survive into adulthood and undergo surgery, even as a first corrective procedure.

The use of the PEACH score was supported by its specific development for ACHD, incorporating anatomical, functional, and surgical-complexity variables specific to this population, thereby allowing more tailored perioperative risk stratification than general scores such as EuroSCORE II or STS [10]. Given that the objective of this study was to characterise the clinical and surgical profile rather than to compare mortality prediction

Table 2. Postoperative complications according to the STS classification (n = 117). INCOR-EsSalud, Peru.

Variables	N (%)
Most frequent postoperative complications	
No reported postoperative complications	44 (37.6)
Arrhythmia requiring pacemaker implantation or medical treatment	37 (31.6)
Cardiac dysfunction/low cardiac output syndrome	12 (10.3)
Bleeding requiring reoperation	8 (6.8)
Pleural effusion requiring drainage	8 (6.8)
Seizures	7 (6.0)
Acute kidney dysfunction	6 (5.1)
Postoperative respiratory failure with prolonged mechanical ventilation	5 (4.3)
Sepsis	5 (4.3)
Pulmonary hypertension requiring treatment	4 (3.4)
Pneumothorax requiring drainage	3 (2.6)
Respiratory failure requiring reintubation	3 (2.6)
Ventilator-associated pneumonia	3 (2.6)
Unplanned cardiac catheterisation/ percutaneous reintervention	3 (2.6)
Postoperative neurological deficit	2 (1.7)
Thrombosis/thromboembolic events	2 (1.7)
Cardiac arrest	2 (1.7)

Fuente: Registro de Cardiopatías congénitas INCOR-EsSalud, STS: *Society of Thoracic Surgeons*.
Nota: las complicaciones no fueron mutuamente excluyentes; algunos pacientes presentaron más de una complicación posoperatoria.

performance, diagnoses and procedures were complemented using the STS anatomical classification, allowing the structural complexity of the included cases to be contextualised. Consistent with reports from specialised international centres [14], the low-risk category according to the PEACH score predominated. Even so, the proportion of patients at intermediate risk and with a history of reintervention suggests the persistence of relevant clinical and surgical complexity.

The distribution of surgical procedures observed in our series reflects the characteristic anatomical heterogeneity of ACHD and the inherent complexity of their surgical management. Combined surgeries and the use of cardiopulmonary bypass predominated, suggesting a high burden of residual lesions or associated defects requiring simultaneous correction. This finding is consistent with that described in specialised ACHD centres and international surgical registries, where complex procedures and multiple concomitant interventions are frequent because of the natural history of the lesions and the need for late reinterventions [15]. Although most patients underwent primary surgery, the presence of reinterventions in approximately one in ten cases demonstrates the cumulative complexity of this population and the need for specialised longitudinal follow-up. Similarly, the predominance of procedures related to septal defects and right heart lesions is consistent with contemporary series of ACHD surgery, in which these entities represent an important proportion of surgical indications [16].

These findings are comparable with those reported by Mongeon et al. and Abarbanell et al., who noted that, although operative mortality in specialised centres can remain low, postoperative complication rates and the need for prolonged intensive care remain substantial among ACHD undergoing reoperation or presenting with complex anatomy [2,17].

In our series, the predominance of combined surgeries and the use of cardiopulmonary bypass reflect the surgical complexity of this population. A substantial proportion of patients required specialised postoperative care, including prolonged intensive care unit stay and ventilatory support. Rhythm and conduction disturbances were also among the most frequent cardiovascular complications, in line with previous reports in ACHD undergoing reintervention [3,17]. These findings suggest that an evolution free from major complications does not necessarily translate into a short hospital recovery [18,19].

The reality observed is similar to that described by Robles Velarde and Mughal in middle-income country settings, where delayed access to surgery and the absence of coordinated care networks favour the progression of congenital lesions towards stages with greater haemodynamic impact and higher use of critical care resources [8,9].

A relevant finding is the absence in Peru of accredited ACHD care units, as well as structured transition programmes between paediatric and adult care. Previous studies have shown that health systems integrating formal transition programmes and specialised multidisciplinary teams reduce loss to follow-up, optimise the timing of surgical intervention, decrease the burden of late complications, and help improve quality of life in these patients [6,20].

In-hospital mortality in our series was low, with a single death recorded (0.9%) in a patient who required postoperative ECMO support. This finding is comparable with reports from contemporary series of surgery in ACHD, in which operative mortality remains low despite the high anatomical and surgical complexity of this population [2,17]. Similarly, Abouelella et al. reported an in-hospital mortality of 4% in a series of ACHD undergoing cardiac surgery at a specialised centre, confirming that outcomes can be favourable when care is delivered in experienced programmes [21]. The low mortality observed in our series might reflect management at a referral centre with experience in CHD; nevertheless, the need for advanced circulatory support in the only fatal case highlights the inherent clinical complexity of these patients.

The limitations of this study include its retrospective design and the fact that it was conducted at a single national referral centre, which might limit the generalisability of the results to other health-care settings. In addition, the size of the cohort and the low frequency of some outcomes, such as mortality, precluded analyses of associated factors. Finally, follow-up was limited to in-hospital outcomes and 30-day readmission; therefore, future multicentre studies with long-term follow-up will be needed to assess the clinical course and survival of this population.

In conclusion, ACHD who underwent surgery at a national referral centre in Peru showed a predominance of septal defects, low in-hospital mortality, and substantial clinical and surgical complexity requiring specialised multidisciplinary care. These findings provide local evidence to strengthen service planning, improve quality of care, and consolidate specialised programmes for the care of ACHD in the Peruvian health system.

Author contributions

RRR, CCH, MHR, RVV: conceptualisation, methodology, formal analysis, investigation, data curation, writing of the original draft, and writing—review and editing. **AOY:** conceptualisation, methodology, formal analysis, investigation, provision of study instruments, and writing—review and editing. **CCS, MGE, JQL, RSH, AAA, JCC, JVQ, BAC, EPC, and VJRV:** investigation, writing of the original draft, and writing—review and editing.

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