



AP002

Paediatric Cardiology & Congenital Heart Disease • Poster Presentation

PERFUSION PRACTICE PATTERNS AND CARDIOPULMONARY BYPASS PARAMETERS IN OPEN-HEART SURGERY AT A TERTIARY CENTRE IN SOUTH-WEST NIGERIA: A SIX-YEAR RETROSPECTIVE ANALYSIS

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Background: Open-heart surgery under cardiopulmonary bypass (CPB) remains uncommon in sub-Saharan Africa, and perfusion practice is poorly documented. We describe perfusion practice patterns, CPB and aortic cross-clamp parameters, and case-mix from a six-year open-heart surgery series at a Nigerian teaching hospital. **Methods:** We retrospectively reviewed 168 consecutive open-heart operations performed under CPB at Obafemi Awolowo University Teaching Hospitals Complex between January 2021 and April 2026. Data included patient demographics, diagnosis, procedure type, CPB duration, aortic cross-clamp time (XCT), and key perfusion practices. Continuous data were summarized as median [interquartile range, IQR], with group comparisons and trends assessed using non-parametric methods.

Results: The cohort was predominantly paediatric (91.7%; median age 24 months [IQR 12–84]) with congenital heart disease (94.0%). Ventricular septal defect (41.1%) and tetralogy of Fallot (22.0%) were the most common diagnoses. Median CPB duration was 161.5 min (IQR 106–210) and median XCT was 98.5 min (IQR 61–135). CPB and XCT varied significantly by procedure type ($p < 0.001$), while adults had longer XCT than paediatric patients (130 vs 91 min; $p = 0.037$). The median CPB/XCT ratio was 1.61 (IQR 1.45–1.82), with 16.1% of cases exceeding 2.0. Del Nido cardioplegia, conventional ultrafiltration, central cannulation, and a single heart–lung machine platform were used throughout. No significant change in CPB duration was observed.

Conclusions: This first perfusion practice-pattern series from Nigeria demonstrates consistent, internationally aligned perfusion techniques. Bypass times reflected a complex, predominantly paediatric congenital case mix. Collaborative registries are needed to establish regional benchmarks

Keywords: Cardiopulmonary Bypass, Perfusion Practice, Congenital Heart Disease, Open-Heart Surgery