

Background

Cardiac catheterization in Congenital Heart Disease (CHD) has been in its “budding” stages in Nigeria for almost a decade. Since the report of 24 cases including diagnostic and interventional procedures in 2013, little has been reported in this field in the country. There has been a growing need for congenital cardiac catheterization in Nigeria to both facilitate successful cardiac surgery as well as provide less invasive interventional options for amenable cardiac defects. Thirty diagnostic and eight interventional cardiac catheterization procedures were performed in a Nigerian teaching hospital over the last one year. All diagnostic procedures were done independently by the local paediatric cardiologist and cathlab team and the interventional procedures were also performed by the local team but in the presence of an invited proctor who gave guidance throughout the procedures.

Objective

This report highlights the patient characteristics and procedure distribution during the first year of congenital cardiac catheterization in a Nigerian tertiary teaching hospital.

Methods

A total of thirty-eight cardiac catheterization procedures were performed on thirty six patients with CHD who presented consecutively at a Nigerian tertiary teaching hospital between October 2018 and August 2019. Informed written consent was taken for all procedures. Thirty of the procedures were diagnostic and eight were interventional. Of the interventional procedures five were device closures of Patent Ductus Arteriosus (PDA) and while three were Percutaneous Transcatheter Pulmonary Valvuloplasties (PTPV). All ducts were closed using Lifetech Cera PDA occluder and valvuloplasties were performed using Tyshak and Tyshak II balloons according to standard protocols.

Results

The age range of patients was seven days to 35 years (mean age of 6.5 years) with a male: female ratio of 1.1: 1. The distributions of diagnostic and interventional procedures are shown in Table 1 and Figure 1 respectively. The frequency of procedures was an average of 0.95 per week with the highest number of procedures done in a day being five. The average duration of procedures was 65.4 minutes and average time to obtain access was 29.2 minutes. All interventional procedures were uncomplicated but intra-procedure complications occurred during five diagnostic procedures (0.13%) and this included groin haematoma, hypercyanotic spells, lung collapse and ventricular tachycardia with near arrest. There was no intra-procedure mortality. There was full recovery following 97.3% of the procedures. Of the 29 patients who had diagnostic catheterization, 15 (51.7%) have had successful surgical correction performed both locally in 86.7% and abroad in 13.3%. All patients who had interventions were discharged within 36 hours of having their procedures and all patients have been reviewed six weeks post intervention with no documented complications.

Conclusion

This study documents the continued and concerted efforts at maintaining congenital cardiac catheterization in Nigeria and the West African sub region. Interventional procedures continue to provide less invasive treatment options for amenable defects and diagnostic procedures aid proper pre surgical evaluation and management to optimize surgical success. Personnel development should match infrastructural growth in Nigerian congenital cardiac care services to sustain progress towards better care for the patient with CHD in this sub-region.

