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Characteristics of tetralogy of Fallot in children seen at Chris Hani Baragwanath Hospital over last two decades

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ABSTRACT

Background: Tetralogy of Fallot (TOF) is one of the most common cyanotic congenital heart defects seen in children. There is limited data on the characteristics of TOF in African children.

Objective: To determine the clinical features, investigation findings, surgical interventions and outcomes of children with TOF in a South African tertiary care setting over a period of 20 years.

Methods: A retrospective, descriptive analysis was done on patients with TOF at the Chris Hani Baragwanath Academic Hospital (CHBAH), who had surgery between June 1998 and June 2018.

Results: One hundred, seventy-nine patients were included in the analysis. The median age of diagnosis was 13 months (IQR, 2.7 - 44.8 months). Hypercyanotic spells were documented in 90/179 (50.3%) patients. The most common associated genetic syndrome was 22q11 microdeletion (16/45; 8.9%). Associated cardiac anomalies included patent ductus arteriosus (4.5%), patent foramen ovale (11.2%), true atrial septal defect (5.6%) and atrioventricular septal defects (1.1%). Normal coronary artery variations were comprised of conus or infundibular arteries arising from the RCA which were mostly small (42/179; 23.4%), with fewer large vessels (6/179; 3.6%). Anomalous coronary arteries included a single coronary artery origin (7/179; 3.9%) and large LAD arising from the RCA and crossing the RVOT (2/179; 1.1%). A left-sided aortic arch (LAA) was diagnosed in 135/179 (75.4%) patients and a right-sided aortic arch (RAA) in 44/179 (24.6%) patients. Systemic-to-pulmonary shunts were performed in 19/179 (10.6%) patients, while 160/179 (89%) patients had corrective surgery. Severe pulmonary regurgitation was seen in 27/51 (52.9%) patients who had a

transannular patch repair, with 18/27 (66.7%) subsequently having a pulmonary valve replacement.

Conclusion: This study shows that the characteristics of TOF in children in our centre are similar to those in other centres inside and outside of Africa.