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Changing Trends in Tetralogy of Fallot: Impact of Improved Antenatal Detection Rate, Earlier Catheter and Surgical Intervention

Uzun O., Ofoe V., Worrall S.

University Hospital of Wales, Department of Paediatric Cardiology, Cardiff, Wales, UK.

Introduction: The management of tetralogy of Fallot (TOF) is evolving with better antenatal detection rates, and earlier catheter and surgical interventions over the years. Whether these changes have made any impact on the overall outcome in terms of morbidity and mortality is not clear. We aimed to provide a contemporary insight into the diagnostic trends, morbidity, and mortality of patients in South Wales over the past 12 years.

Method: We retrospectively reviewed preoperative and post-operative status of 92 patients diagnosed with TOF over the past 12 years.

Results: There were 92 patients with equal male to female ratio. 17% had genetic and 31% had other system abnormalities. Antenatal diagnosis rate improved from 0% to over 50% in the study period with the implementation of outflow tract screening method. Frequency of arterial shunt procedures have decreased over time from 67% in 2000 to 0% in 2012 and age at total correction changed from 15 months to less than 7 months. 12% underwent catheter palliation (including two outflow tract stent) as interim procedure. 73% of patients had transannular patch with majority being less than 6 months old. Although the patients younger than 3 months had a longer stay in hospital (24 days) and a higher morbidity score the post-operative survival was 100% in all age groups. 4 patients died prior to total correction of TOF.

Conclusion: Majority of TOF is now detected antenatally owing to inclusion of outflow tract views as part of fetal cardiac screening programs. In parallel to this, the clinical use of propranolol for hypoxic spells was reduced substantially and the need for palliation with arterial shunt became obsolete, as alternative option of catheter interventions became readily available. Furthermore, reduction in age at complete repair to 6 months did not have adverse effect on survival, but led to an increase in the use of transannular patch.