



ACUTE OUTCOMES AFTER INTRODUCTION OF A CLINICAL ASSESSMENT AND MANAGEMENT PLAN FOR PATIENTS WITH DUCT DEPENDENT PULMONARY CIRCULATION UNDERGOING DUCTUS ARTERIOSUS STENTING: A PILOT OUTCOME STUDY

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BACKGROUND:

Complex cyanotic heart diseases that have duct dependent pulmonary circulation are associated with early mortality but advances in management through Patent Ductus arteriosus stenting has lead to improvement of outcomes worldwide. Our institution manages duct dependent lesions in resource limited settings. There is limited use of advanced imaging, limited choices of wires and catheters. The data in our institution from 2006-2016 has shown a larger mortality rate compared to international data, this has lead to evaluation of practices that can be improved and initiation of a Clinical Assesment and Management Plan for these patients.

OBJECTIVE:

The aim of this study is to determine the successrate, mortality and morbidity rate during the first 8 months of application of the clinical assesment and management plan for duct dependent congenital heart diseases.

METHODS:

This is an interim analysis, retrospective quality assessment study to evaluate the outcomes of PDA stenting in newly diagnosed patients after the initiation of clinical assessment and management plan from May 2019 until March 2020.

RESULTS:

There were 22 patients with a mean age was 106 days (0 to 666 days). The mean weight was 3.7 kg (2.3 to 6.6 kg). The most common diagnosis were pulmonary valve atresia with ventricular septal defect in 7 patients (31.8%). Procedural success rate was 100% (22 patients). The survival to discharge was 90% (20 patients). Mortality was due to acute stent thrombosis in 4.5% of the patients, and nosocomial sepsis unrelated to the procedure in 4.5% of the patients.

DISCUSSION:

The results of this preliminary study showed that after the initiation of Management plan there was a lower peri procedural mortality rate of 4.5% which is an improvement from institutional baseline of 17%. Although the study does not have sufficient number of patients to prove statistical significance, this trend, if it continues, will show that there is benefit in terms of survival. There was also a higher implantation success rate at 100% compared to the 90.3%



from the previous study. This is likely attributed to the availability of prostaglandin pre procedure, as well as the availability of a wider range of stents, catheters, and wires currently. The results of the present study is comparable to data from other centers in the world where the mortality rates of PDA stenting is at 6.6% despite limited use of advanced imaging.

CONCLUSION:

The initiation of the Clinical Assessment and Management Plan which consists of a stepwise protocol in the pre, peri, and post procedural management of critical cyanotic heart disease undergoing PDA stenting showed a trend towards improved outcomes. Despite the limitation in terms of availability of advanced cardiac imaging, improved periprocedural managements has lead to a trend towards improved outcomes. We therefore recommend adherence to this protocol in our institution. We hope to enroll more patients to determine whether this management plan will significantly result in improved outcomes.

CSI EDUCATION



Ductal dependent CHD management algorithm

