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MYOCARDIAL PERFORMANCE INDEX (MPI) PRE AND POST ASD DEVICE CLOSURE:A COMPARATIVE ANALYSIS

Cardiology

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KEYWORDS

INTRODUCTION:

Atrial septal defect (ASD) represents one among the most common congenital heart disease manifested in adult life. It accounts 7% to 10% of all congenital heart disease in children. Ostium secundum being the most predominant type and common among females often comes to light in young adults[1]. The right heart is exposed to chronic volume overload due to an increased pulmonary flow which leads to dilatation of the right atrium and right ventricle (RV)[1]. Some patients might progress to various stages of pulmonary hypertension and right sided heart failure. My work will mainly focus on adolescents and adult subgroup of patients with optimal sized ASDs who do not have other major associated anomalies. The Himalayan progress in the field of interventional cardiology has led to the birth of percutaneous device closure of secundum ASD.

Aim:

The main of purpose of this study is to comparison of myocardial performanceindex **(MPI)** pre and post percutaneous device closure of ostium secundum atrial septal defect with appropriate sized septal occluder percutaneous device closure of ostium secundum atrial septal defect with appropriate sized septal occluder

METHODS:

Study centre : Tertiary centre in South India
Study design: Observational study
Study period: August 2011- April 2014

Study population: Inclusion Criteria: All patients undergoing percutaneous device closure of ostium secundum atrial septal defect in our institute were included in the study.

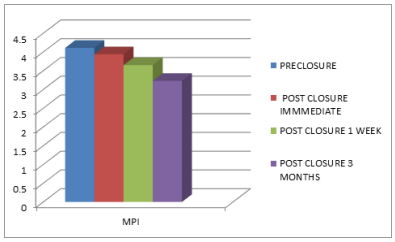
RESULTS:

COMPARISON OF MYOCARDIAL PERFORMANCE INDEX (MPI) PRE AND POST ASD DEVICE CLOSURE:

	N	Minimum	Maximum	Mean	Std. Deviation
MPI preclosure	30	3.2	4.9	4.113	.4345
MPI post closure immediate	30	3.2	4.9	3.943	.4141
MPI post closure 1 week	30	3.0	4.8	3.653	.5015
MPI post closure 3 months	30	2.7	4.7	3.233	.4823

There is significant difference between 4 time occasions, F=45.367, **P<0.001**

FINAL OUTCOME OF MPI PRE AND POST ASD DEVICE CLOSURE



There is significant difference between 4 time occasions, F=228.286, P<0.001.

Further multiple comparison of occasions shows all pairs are significantly different.

Actually TAPSE a marker of RV systolic function the reduction in TAPSE following asd device closure could well be explained by the fact that during the preprocedure period when the volume overload to the RV is more the tricuspid annular excursion is more so that it can offload the overloaded right heart, whereas during the post intervention period the closure of the septal defect halts the gushing of blood into the right heart system thus not requiring the excessive tricuspid annular excursion. MPI though within normal limits throughout the study period significantly improved in the post closure period.

There are only a very few data on myocardial performance index (MPI) pre and post undergoing percutaneous device closure of ostium secundum atrial septal defect asd device closure which is studied in detail in our study.