بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

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Assessment of Right ventricular reverse remodeling in infants with critical pulmonary stenosis after balloon pulmonary valvuloplasty using 3D echocardiography

Thesis

Submitted For Partial Fulfillment of Master Degree in Cardiology

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2021

سورة البقرة الآية: ٣٢

Acknowledgment

First and foremost, I feel always indebted to ***ALLAH,***
the Most Kind and Most Merciful.

I'd like to express my respectful thanks and profound gratitude to ***Prof. Dr. Ghada Samer El Shahed,*** *Professor of Cardiology, Faculty of Medicine - Ain Shams University for her keen guidance, kind supervision, valuable advice and continuous encouragement, which made possible the completion of this work.*

I am also delighted to express my deepest gratitude and thanks to ***Dr. Dina Adel Ezz el Din,*** *Assistant Professor of Cardiology, Faculty of Medicine - Ain Shams University, for her kind care, continuous supervision, valuable instructions, constant help and great assistance throughout this work.*

I am deeply thankful to ***Dr. Amira ahmed Nour el din,*** *Lecturer of Cardiology, Faculty of Medicine - Ain Shams University, for her great help, active participation and guidance.*

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List of Abbreviations

Abb.	Full term
2D	Two-Dimensional
3D	Three-dimensional
ASD	Atrial septal defect
BPA	Ballon pulmonary arterioplasty
BPV	Ballon pulmonary valvuloplasty
BSA	Body surface area
CHDs	Congenital heart defects
CMR	Cardiac magnetic resonance
CPS	Critical Pulmonary Valve Stenosis
CTEPH	Chronic thromboembolic pulmonary hypertension
ECG	Electrocardiogram
EF	Ejection fraction
FAC	Fractional Area Change
FAC	Fractional area change
IQR	Inter-quartile range
IV	Intravenous
LV	Left ventricle
PDA	Patent ductus arteriosus
PFO	Patent foramen ovale
PH	Pulmonary hypertension
PLAX	Parasternal long axis
PS	Pulmonary stenosis
PSAX	Parasternal short axis
PV	Pulmonary valve
RAA	Right atrial area
RAO	Right anterior oblique
RT3DE	Real-time 3-dimensional echocardiography

List of Abbreviations Cont...

Abb.	Full term
RV EDV	Right ventricle end-diastolic volume
RV ESV	Right ventricle end systolic volume
RV	Right ventricle
RVED	RV end diastole
RVEDVi	Right ventricle end-diastolic volume indexed
RVEF	RV ejection fraction
RVES	RV end systole
RVESVi	Right ventricle end systolic volume indexed
RVOT	Right ventricular outflow tract
SD	Standard deviation
TAM	Tricuspid annulus motion
TAPSE	Tricuspid annular plane systolic excursion
TV	Tricuspid valve
VSD	Ventricular septal defect

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INTRODUCTION

Pulmonary stenosis (PS) is a common congenital heart disease. It accounts for approximately 8 - 12% of all congenital cardiac defects [(1)]. With an incidence of about 1 per 2000 live births worldwide, its prevalence is 2.3 per 10 000 school children [(2)].

Patient`s presentation may be as asymptomatic with an incidental murmur if mild PS. With severe PS advanced right ventricular dysfunction and failure occur. Even may present with deep cyanosis and acidosis due to critical PS [(3)].

Critical Pulmonary Valve Stenosis (CPS) is of the life-threatening congenital heart defects (CHDs) present during the neonatal period by cyanosis. It is a duct dependent lesion. Neonates and infants with critical PS with right ventricular (RV) pressure equal to or greater than systemic pressure can be categorized into two distinct groups based on their clinical presentation: (1) critically ill infants with cyanosis whose pulmonary blood flow may depend on ductal patency and require urgent intervention and (2) asymptomatic infants. The anatomic and hemodynamic factors that determine the clinical presentation of infants with critical PS are not well understood [(3)].

The traditional treatment for pulmonary valve stenosis prior to 1982 was surgical valvotomy. The relief of pulmonary valve stenosis by balloon dilatation during cardiac catheterization was first reported in 1982 [(4)].