بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

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Evaluation of Tetralogy of Fallot and its Associations by Multi Detector Computed Tomography

Thesis

Submitted for Partial Fulfillment of M.D. Degree in Radiodiagnosis

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Mai Mohamed

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List of Abbreviations

Abb.	Full term
3 CH	*Three chamber*
3D	*Three dimensional*
4 CH	*Four chamber*
ASD	*Atrial septal defects*
AV	*Atrio-ventricular*
BCV	*Brachiocephalic vein*
CHD	*Congenital heart disease*
CMR	*Cardiac magnetic resonance*
CPR	*Curve planar reformation*
DORV	*Double outlet right ventricle*
ECG	*Electrocardiography*
Echo	*Echocardiography*
IVC	*Inferior vena cava*
LA	*Left atrium*
LAA	*Left atrial appendage*
LAD	*Left anterior descending artery*
LCx	*Left circumflex artery*
LPA	*Left pulmonary artery*
LVOT	*Left ventricular outflow tract*
MAPCAs	*Major aortaopulmonary collaterals*
MDCT	*Multidetector computed tomography*
MIP	*Maximum intensity projection*
MPA	*Main pulmonary artery*
MPR	*Multiple planar reformation*
PAs	*Pulmonary arteries*
PDA	*Patent ductus arteriosus*
PV	*Pulmonary valve*
RA	*Right atrium*

List of Abbreviations Cont...

Abb.	Full term
RAA	*Right atrium appendage*
RCA	*Right coronary artery*
RPA	*Right pulmonary artery*
RV	*Right ventricle*
RVOT	*Right ventricular outflow tract*
SCA	*Subclavian artery*
SVC	*Superior vena cava*
TOF	*Tetralogy of Fallot*
TOF-PA	*Tetralogy of Fallot with pulmonary atresia*
TTE	*Transthoracic Echocardiography*
VR	*Volume rendering*
VSD	*Ventricular septal defect*

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INTRODUCTION

Tetralogy of Fallot (TOF) is the most common cyanotic congenital heart disease, represents about 10% of all congenital cardiac malformations ***(Bacchus and Franco, 2014).***

It is classically characterised by the combination of ventricular septal defect (VSD), right ventricular outflow tract obstruction (RVOTO), overriding aorta, and a late right ventricular hypertrophy ***(Bailliard and Anderson, 2009)***.

Common associations of Fallot's Tetralogy include pulmonary artery atresia that varies from mild hypoplasia to complete absence of the main pulmonary artery or the non-confluence of its branches. In severe cases, the pulmonary flow is maintained by a patent ductus arteriosus PDA, while the main pulmonary artery and its branches are intact by major aorto-pulmonary collateral arteries MAPCAs ***(Frank et al., 2013).***

The MAPCAs are present from birth and are alternatives to the systemic pulmonary arterial supply. They usually arise from the descending thoracic aorta but may also take their origins from the subclavian or coronary arteries and the abdominal aorta ***(Roche et al., 2013).***

Other abnormalities include coronary artery abnormalities; the most common is a right coronary artery arising from the left anterior descending (LAD) artery, right