Role of CT and MRI in Diagnosis of Pericardial Diseases

Essay

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By

Amr Ibrahim ALI Mahmoud
M.B.B.Ch.
Faculty of Medicine - Ain Shams University

Under supervision of

Prof. Dr. Laila Ahmad Abdurrahman
Professor of Radiodiagnosis
Faculty of Medicine - Ain Shams University

Dr. Yasser Ibrahim Abdel Khalek
Lecturer of Radiodiagnosis
Faculty of Medicine - Ain Shams University

Faculty of Medicine
Ain Shams University
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Amr Ibrahim

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ABSTRACT

Pericardial diseases are important causes of morbidity and mortality in cardiovascular diseases. CT & MRI are more than adjuncts to echocardiography in pericardial diseases assessment, as they provide an excellent pericardial anatomy delineation and precise pericardial lesions evaluation including; effusion, constrictive pericarditis, thickening, masses and congenital anomalies. Ideal management needs the proper imaging modality choosing ability.

Keywords: Pericardial diseases - CT - MRI.

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List of Abbreviations

Abb.	Full term
2D	Two dimensional
AMI	Acute myocardial infarction
bSSFP	Balanced steady state free precession
BTFE	Balanced turbo field echo
CCT	Cardiac computed tomography
Cine	Cinema
CK	Creatine kinase
CMR	Cardiac magnetic resonance
CT	Computed tomography
CTR	Cardio-thoracic ratio
e.g.	For example
ECG	Electro-cardio-graphy (Electrocardiogram)
esp.	Especially
et al	And others
Fig.	Figure
Figs.	Figures
GRE	Gradient echo
HIV	Human immunodeficiency virus

i.e.	That is
IVC	Inferior vena cava
IVS	Inter-ventricular septum
LA	Left atrium
LV	Left ventricle
MFH	Malignant fibrous histiocytoma
MI	Myocardial infarction
ml	Milliliter
mm Hg	Millimeter mercury
MR	Magnetic resonance
MRI	Magnetic resonance imaging
MVP	Mitral valve prolapse
PA	Pulmonary artery
PA CXR	Postero-anterior chest x-ray
PMN	Poly-morph-nuclear white blood cells
PPD	Purified protein derivative
RA	Right atrium
RPA	Right pulmonary artery
RV	Right ventricle
SE	Spin echo
SLE	Systemic lupus erythematosus
SVC	Superior vena cava

T.B.	Tubercle bacillus
Tab.	Table
TNM	1^{ry} tumor – lymph nodes – metastasis cancer staging system
TTE	Trans-thoracic echocardiography

INTRODUCTION

The pericardium represents a simple, two-layered, fibroelastic sac that surrounds the heart and provides lubrication and protection. Normally, it is a thin-walled structure (<3 mm) with minimal pericardial fluid (<50 ml). The normal pericardium is fairly distensible, precluding excessive constraint of the ventricles ***(Troughton et al., 2004)***. The pericardium has been described as an intracardiac pressure modulator, limiting acute distention of any cardiac chamber ***(Czum et al., 2014).***

The pericardium has several important anatomical functions including isolating the heart from the adjacent lungs and pleura to reduce the spread of infection, fixation of the heart position within the thoracic cavity and reduction of friction resistance by the presence of pericardial fluid ***(Kim et al., 2007).***

Pericardial diseases are important causes of morbidity and mortality in patients with cardiovascular disease. Inflammatory diseases of the pericardium constitute a spectrum ranging from acute pericarditis to chronic constrictive pericarditis. Other important entities that involve the pericardium include benign and malignant pericardial masses,