LEFT ATRIAL REMODELING IN PATIENTS WITH DIASTOLIC AND SYSTOLIC HEART FAILURE

Thesis

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Cardiology

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SUMMARY

This study was performed to assess left atrial remodeling in patients with systolic and diastolic HF.

Heart failure is one of the most important morbidities affecting populations all over the world particularly in elderly.

The current study was conducted on 40 patients presented to Ain Shams university echocardiography laboratory in comparison with 20 control subjects in the period from January 2009 to October 2010.

Patients were subjected to full medical history, clinical examination, and laboratory investigation. Twelve lead E.C.G. were done to detect any abnormality and to exclude patients with atrial fibrillation.

The selected patients subdivided into 2 groups:

Group I: It included 20 patients presented with diastolic heart failure with normal systolic function.

Group II: It included 20 patients presented with systolic heart failure with normal diastolic

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Contents

List of Tables

List of Figures

List of Figures *(Cont'd..)*

List of Figures *(Cont'd..)*

List of Figures *(Cont'd..)*

List of Figures *(Cont'd..)*

List of Figures *(Cont'd..)*

List of Abbreviations

ABD	Automatic border detection
2D	Two dimensional
AEF	Active Emptying Fraction
AEV	Active Emptying Volume
AF	Atrial fibrialtion
AR	Atrial reversal
CHF	Congestive heart failure
DD	Diastolic dysfunction
DHF	Diastolic heart failure
SHF	Systolic heart failure
DM	Diabetes Mellitus
DT	Deceleration time
ECG	Electrocardiogram
EDP	End diastolic pressure
EF	Ejection fraction
ESD	End systolic dimension
EDD	End diastolic dimension
FS	Fractional shortening
HF	Heart failure
HTN	Hypertension
IHD	Ischaemic heart disease
IVRT	Isovolumetric relaxation time
LA	Left atrium/atrial
LA V-max	Left atrial maximum volume
LA V-min	Left atrial minimum volume
LA Vp	Left atrial volume at peak of ECG P-wave

LAEF	Left atrial Ejection Force
LV	Left ventricle/ventricular
LVEF	Left ventricular ejection fraction
LVH	Left ventricular hypertrophy
LVMI	Left ventricular mass index
MI	Myocardial infarction
MM	M-mode
MRI	Magnetic resonance imaging
MV	Mitral valve
PEF	Passive emptying fraction
PEV	Passive emptying volume
RWT	Relative wall thickness
TDE	Tissue Doppler echocardiography
TEE	Transoesophageal echocardiography
TEF	Total emptying Fraction
TEV	Total emptying Volume
TTE	Transthoracic echocardiography

INTRODUCTION

Chronic heart failure (HF) has been attributed to left ventricular (LV) systolic dysfunction with decreased LV ejection fraction (LVEF) leading to an increase in LV filling pressures and volumes (systolic HF) *(Goldsmith et al., 1993).*

However, some studies suggest that in approximately 40-60% of cases with HF, LVEF is preserved *(Senni et al., 2001).*

Although abnormalities of LV systolic function are often present in this setting *(Yip et al., 2002)* the predominant underlying pathophysiology seems to be an abnormality of LV active relaxation and passive stiffness (diastolic HF) *(Zile et al., 2004).*

Diastolic abnormalities are frequently associated with other pathological conditions such as arterial hypertension, LV hypertrophy and coronary artery disease. In addition to these factors, diastolic dysfunction was related to obesity and diabetes mellitus *(Fischer et al., 2002).*

However the most common abnormalities are an elevated end diastolic pressure (EDP) and altered