بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

Echo Doppler Assessment of Left Ventricular Structure and Function in Elderly Subjects with and without Systolic Hypertension

Thesis

Submitted in Partial Fulfillment of the

Requirements for the Doctorate Degree in

Internal Medicine

By

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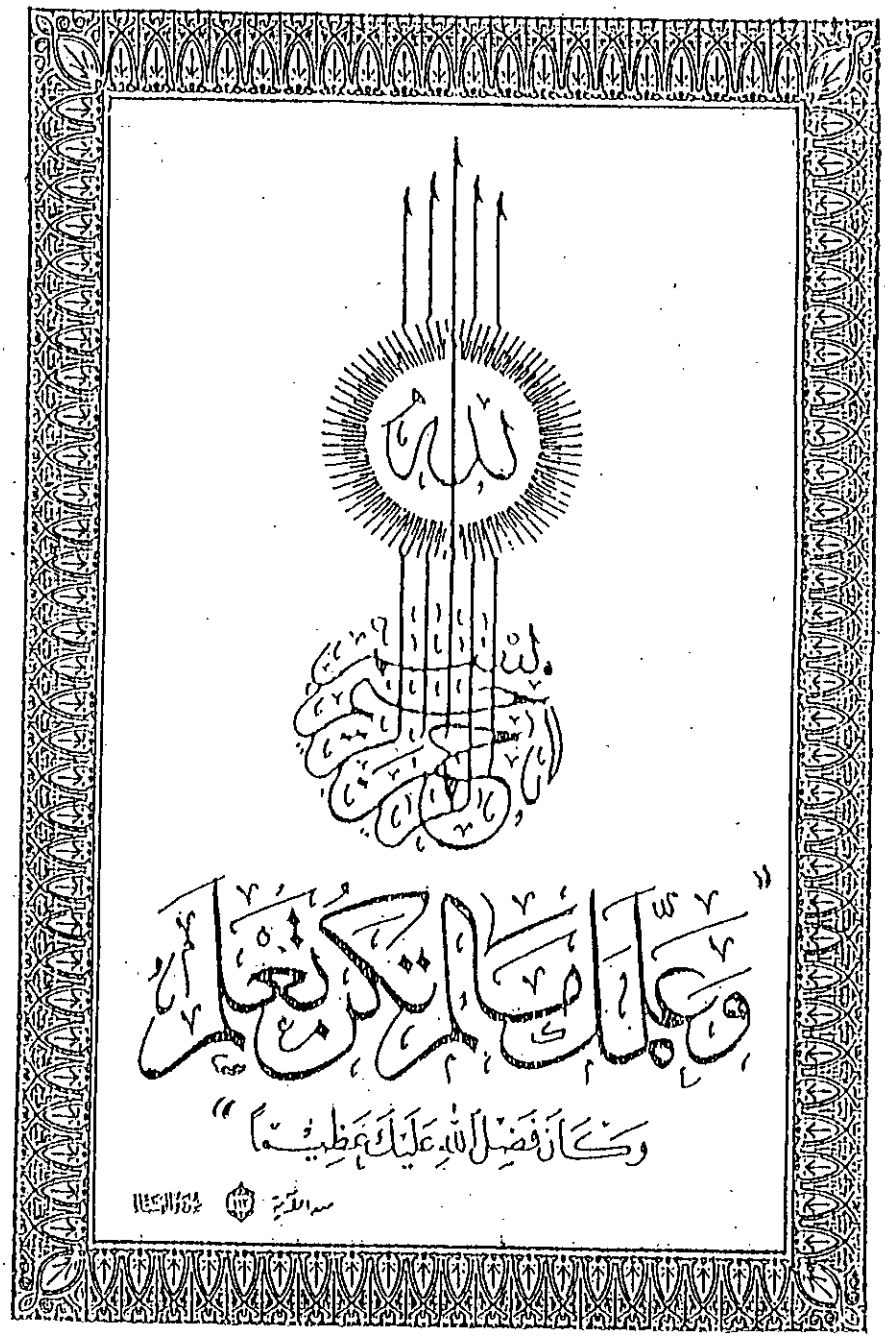
بسم الله الرحمن الرحيم
وعلمك ما لم تكن تعلم
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List of Abbreviations

AFF	Atrial filling fraction
AC	Arterial compliance
ACE	Angiotensin converting enzyme
AS	Acceleration slope of early filling
ASE	American Society of Echocardiography
AT	Acceleration time
BMI	Body mass index
BP	Blood pressure
BSA	Body surface area
CAD	Coronary artery disease
CI	Cardiac index
COP	Cardiac output
CVD	Cardiovascular disease
DBP	Diastolic blood pressure
DNA	Deoxy ribonucleic acid
DS	Deceleration slope of early filling
DT	Deceleration time
ECG	Electrocardiography
EF	Ejection fraction of LV
EIVA	Exercise - induced ventricular arrhythmias
ESS	End systolic stress of LV
FS	Fractional shortening of LV
HR	Heart rate

HSP	Heat shock protein
HT	Height
IDH	Isolated diastolic hypertension
IHD	Ischaemic heart disease
IMT	Intimal media thickening
ISH	Isolated systolic hypertension
IVST	Inter ventricular septal thickness
JNC	Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure
LA	Left atrium
LV	Left ventricular
LVDD	Left ventricular end-diastolic diameter
LVDV	Left ventricular end-diastolic volume
LVH	Left ventricular hypertrophy
LVM	Left ventricular mass
LVMI	Left ventricular mass index
LVSD	Left ventricular end-systolic diameter
LVSV	Left ventricular end-systolic volume
MBP	Mean arterial blood pressure
MHC	Myosin heavy chain
MI	Myocardial infarction
MSI	Mean LV systolic wall stress index
NT	Normotensive
PHT	Pressure half time
PSS	Peak systolic stress of LV
PVA	Peak late diastolic inflow velocity (A)

PVE	Peak early diastolic inflow velocity (E)
PWT (d)	Posterior wall thickness in diastole
PWT (s)	Posterior wall thickness in systole
RF	Rapid diastolic filling phase
RFP	Rapid diastolic filling period
RNA	Ribonucleic acid
RWT	Relative diastolic wall thickness
SBP	Systolic blood pressure
SV	Stroke volume
SVI	Stroke volume index
SWT	Sum wall thickness
Total TVI	Total diastole time velocity integral
TPR	Total peripheral resistance
TVI A	Time velocity integral (A)
TVI E	Time velocity integral (E)
VO_2 max	Maximal O_2 uptake
WHO	World Health Organization
WT	Weight

Contents

Introduction and aim of work

Introduction and Aim of Work

The elderly populations have their own demographic structures, their own mortality indexes and their own special problems of disease, disability and need for support (WHO, 1984).

There is a wide preconception that cardiovascular function decreases as subject getting old. Also, the prevalence and severity of cardiovascular disease increase with age. Thus there is difficulty in dissociating disease from aging and aging itself may change the rate of disease progress (Elveback and Lie, 1984 and Weisfeldt and Gerstenblith, 1990).

With aging there are variable changes in left ventricular (LV) structure and function. Normal aging may lead to decrease in the LV diastolic filling which leads to diastolic dysfunction and finally congestive heart failure (Stuffer and Gaasch, 1990 and Nishimura and Tajik, 1997). However, there are controversial points about LV structure and systolic function changes still unsolved. Some studies reported that in healthy elderly LV mass remains stable and does not increase in the absence of other risk factors such as increased blood pressure (BP) and body mass (Dannenberg et al., 1989 and Lernfelt et al., 1991). Other studies documented an increase in LV mass in healthy elderly

(Gardin et al., 1987 and Sagie et al., 1993). Also, other studies mentioned that LV systolic function does not decrease as a consequence of normal aging (Port et al., 1980; Fleg, 1986 and Lernfelt et al., 1991), while others reported that healthy elderly show decrease in systolic function indexes that could be partially compensated by the increase in wall thickness (Rodeheffer et al., 1984 and Merino et al., 1988).

One of the most significant age associated changes is the increase in systolic BP (Avolio et al., 1985). It has become clear in the past decade that systolic BP is at least as important determinant of cardiovascular sequelae as diastolic BP. Subjects with isolated systolic hypertension (ISH) show excessive cardiovascular morbidity and mortality and ISH is associated with two-to-three fold increased risk of stroke, coronary artery disease and congestive heart failure (Wilking et al.,1988; Staessen et al., 1990; Psaty et al., 1992 and Smulyan and Safar, 1997).

It has been shown that elderly patients with ISH have well preserved LV systolic function, high prevalence of LV hypertrophy and abnormal diastolic filling in comparison to elderly normotensive control (Pearson et al., 1991 and Sagie et al., 1993).