سامية محمد مصطفى



شبكة المعلومات الحامعية

بسم الله الرحمن الرحيم



-Caro-

سامية محمد مصطفي



شبكة العلومات الحامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم





سامية محمد مصطفى

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسو

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأقراص المدمجة يعيدا عن الغيار



سامية محمد مصطفي



شبكة المعلومات الجامعية



المسلمة عين شعور المسلمة عين شعور المسلمة عين شعور المسلمة عين شعور المسلمة ا

سامية محمد مصطفى

شبكة المعلومات الحامعية



بالرسالة صفحات لم ترد بالأصل



Predictive value of color M-mode and pulsed wave tissue Doppler imaging after first myocardial infarction

Thesis

Submitted to Faculty of Medicine Tanta University in partial fulfillment of the requirements of Master degree in Cardiology

By Shaimaa Abou Bakr El-Saied Yousef

M.B., B. Ch

Supervisors

Prof. Dr. Ikram Sadek Said

Professor and Head of Cardiology Department Faculty of Medicine

Tanta University

Prof. Dr. Seham Fahmy Badr

Professor of Cardiology Faculty of Medicine Tanta University

Prof. Dr. Mai Mohamed Abd-ElMenem Salama

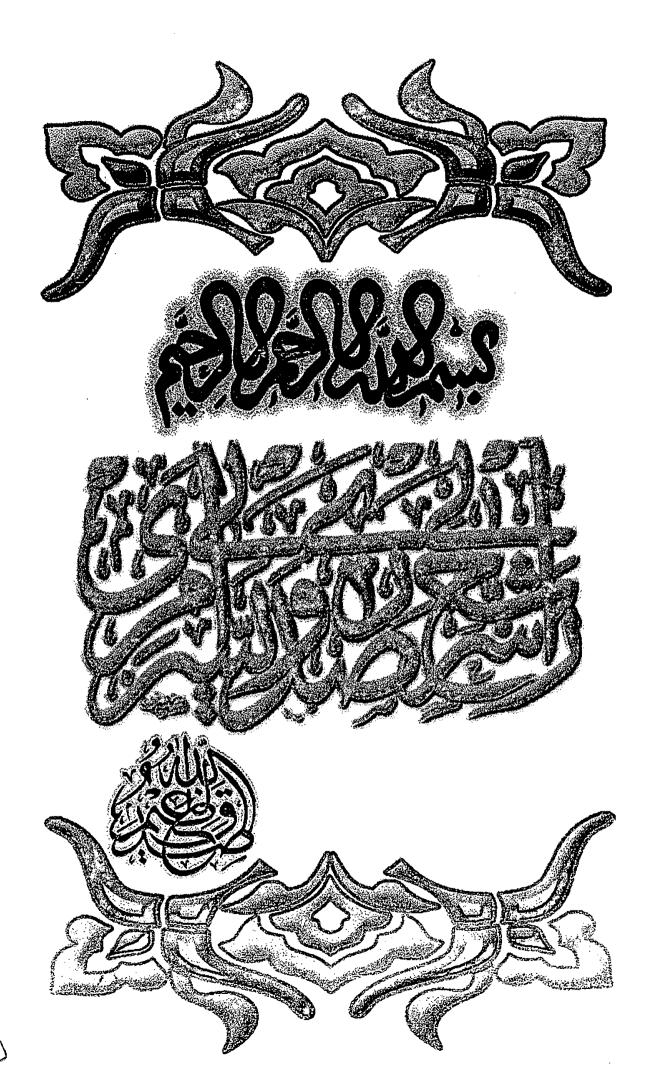
Professor of Cardiology Faculty of Medicine Tanta University

Faculty of Medicine Tanta University 2005

15.5. P

B, r9V-

Yalama 1



Acknowledgment

First, and for most thanks to ALLAH, the most merciful, gracious whose magnificent help is the main factor in every thing we can do in life.

I would like to express my sincere thanks and deepest gratitude to Prof. Dr. Ikram Sadek. Professor and Head of Cardiothoracic Medicine and Surgery Department, Faculty of Medicine, Tanta University, for suggesting the subject, her continuous encouragement, sustained unlimited support, expert guidance, wise valuable instructions and suggestions through this work. I feel greatly honored to work under her supervision.

I would like to express my deepest gratitude and thanks to my Prof. Dr. Seham Fahmy Badr. Prof. of Cardiology, Tanta University, for her sincere advices and remarkable comments made the accomplishment of this work possible. She never declined from offering her wide experience, skill and marvelous support to me. I am greatly appreciating her valuable suggestion and supervision.

It is difficult to express my deep appreciation and my great thanks to Prof. Dr. Mai Abd El-Menem Salama. Prof. of Cardiology, Tanta University, for suggesting and planning this work, her help, keen supervision and advice to overcome all the obstacles and to make the accomplishment of this work possible. She never declined from offering her wide experience, skills and marvelous support to me. I am greatly appreciating her valuable suggestion and supervision.

I would like to express my deep appreciation to the valuble contribution of Dr. Ayman Elsheikh, Dr. Enas Deraz, Dr. Samah Abou Hamar and Dr. Ayman Gaafar whom helped me in the technical part of this work.

Finally, I feel that it is my duty to express my great thanks to all members of Cardiology Department, Tanta University for their help and cooperation.

CONTENTS

contents	Page
Introduction	1-2
Aim of the work	3
Review of literature	4
Tissue Doppler imaging	4
Technical principles of Doppler tissue imaging	4
Modes of tissue Doppler imaging	5
Assessment of the cardiac physiology by TDI	15
Assessment of the cardiac function with TDI	17
TDI in ischemic heart disease	27
Left Ventricular Diastolic Function	36
Background	36
Physiology of diastole	36
Invasive measures of diastolic function	37
Doppler indices of diastolic function	38
Abnormal transmitral flow patterns	42
Color M-mode flow propagation velocity	45
Pulmonary venous flow pattern	46
New concepts in diagnosis and prognosis of diastolic dysfunction	
and diastolic heart failure	48
Definition of diastolic heart failure	48
Definition of diastolic dysfunction	48
Diagnosis	49
Prognosis	52

Contents

Echocardiographic assessment of left ventr	ricular systolic
function	
Assessment of global systolic function	on 55
Assessment of regional systolic func	tion 56
Patients and Methods	59
Results	66
Discussion	106
Summary and Conclusion	121
Limitations of the study	
References	126
Arabic summary	1

J.

X

J.

INTRODUCTION

Despite advances in medical therapy and trends suggesting an improvement in survival, patients with heart failure (HF) continue to have a high mortality.(1,2) Recent guidelines for management of patients with HF focus on the identification of preclinical disease in an effort to halt disease progression to advanced HF.(3)

Patients with preserved systolic function are estimated to account for up to 40% to 50% of patients diagnosed with symptomatic HF.(4) Furthermore, studies have estimated that there are high rates of preclinical disease with 20% of asymptomatic patients having mild diastolic dysfunction and 7% having moderate to severe diastolic dysfunction.(5)

When combined with a two-dimensional evaluation of cardiac structures, the use of Doppler echocardiography can lead to improved identification and management of patients with HF and may be used to estimate LV filling pressures.(6)

Traditional Doppler indices derived from transmitral inflow and pulmonary vein flow velocities have been studied extensively. Many factors, however, limit the interpretation of these traditional techniques and a more widespread application to all patients with heart failure. Newer modalities such as color M-mode flow propagation velocity (FPV) and tissue Doppler imaging (TDI), can overcome many of the limitations associated with traditional Doppler parameters and enhance the noninvasive assessment of heart failure patients.(6)

Recent studies have indicated that color M-mode Doppler flow propagation velocity and the early diastolic myocardial velocity of the mitral annulus (Em) obtained with pulsed wave tissue Doppler imaging allow assessment of left ventricular (LV) relaxation.(7,8) Because these indexes appear to be relatively independent of preload, this may be used

to identify pseudonormal mitral filling pattern (7,9), and allow non invasive determination of LV filling pressures.(9)

Although the information obtained with these techniques appears to be similar, knowledge regarding the association of these indexes and their prognostic value after first myocardial infarction is limited, that will be investigated in the present study.

A A

Z A A.

Ç

AIM OF THE WORK

The objectives of the present study were to:

- Investigate the association between color M-mode assessed mitral valve flow propagation velocity and early diastolic mitral annular velocity obtained with tissue Doppler imaging after first myocardial infarction.
- Assess the value of these techniques if combined with other mitral flow indices to predict adverse cardiac events after first myocardial infarction.