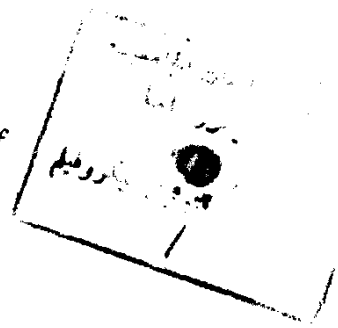
Role of Transesophageal Echocardiography In The Management of Non-Valvular Atrial Fibrillation

Thesis

Submitted for Partial Fulfillment of
Master Degree In Cardiology



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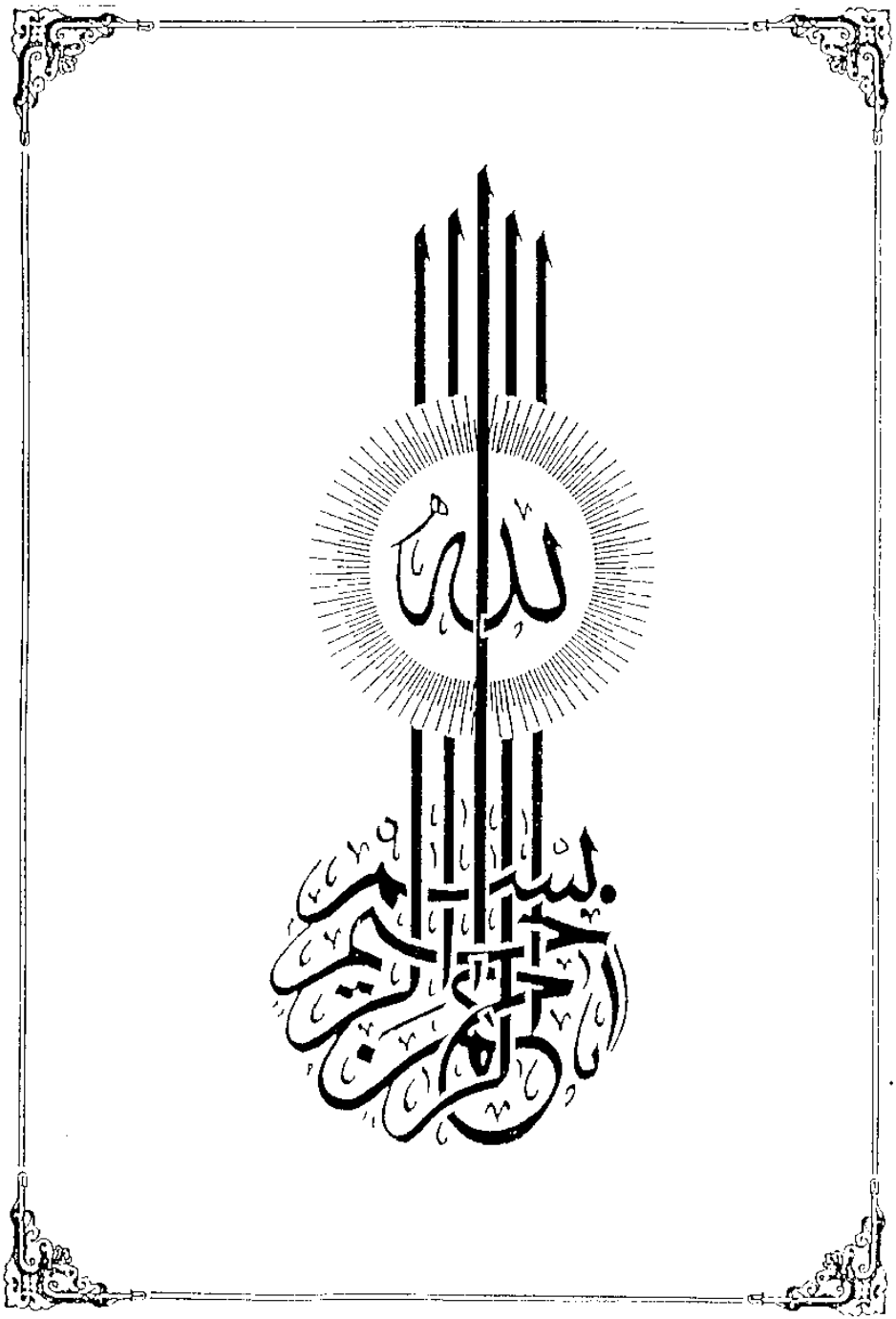

To

My Family

Acknowledgment

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List of Abbreviations

AC	Anticoagulation
AF	Atrial fibrillation
Ao. Scl.	Aortic sclerosis
AV	Atrioventricular
CFI	Color flow imaging
COAD	Chronic obstructive airway disease
CV	Cardioversion
CW	Continuous wave
CXR	Chest X-ray
DC	Direct current
ECG	Electrocardiogram
EF	Ejection fraction
F	Female
IHD	Ischemic heart disease
INR	International ratio
IVS	Interventricular septum
J	Joules
LA	Left atrium
LAA	Left atrial appendage
LV	Left ventricle
LVDID (EDD)	Left ventricular end diastolic internal diameter
LVSID (ESD)	Left ventricular end systolic internal diameter
M	Male

MR	Mitral regurgitation
NRAF	Non-rheumatic atrial fibrillation
NYHA class	Functional class according to New york Heart Association Classification
PT	Prothrombin time
PTT	Partial prothrombin time
PW	Pulsed wave
SEC	Spontaneous echo contrast [0 = No; I = Mild; II = Severe]
TEE	Transesophageal echocardiography
TR	Tricuspid regurgitation.
TTE	Transthoracic echocardiography

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Atrial fibrillation is one of the most common types of arrhythmias, occurring in up to 4% of patients over 60 years of age *(Kannel et al., 1992)*.

Atrial fibrillation has been identified as the rhythm responsible for more than half of all instance of systemic thromboembolism from the heart *(Abbott et al., 1982)*.

In addition, atrial fibrillation is associated with a decrease in cardiac output because of the loss of atrial contribution to ventricular filling *(Morris et al., 1965)*.

Cardioversion is performed in patients with atrial fibrillation in an effort to improve cardiac function, relieve symptoms and decrease the risk of thrombus formation *(Pritechett et al., 1992)*.

Unfortunately, successful cardioversion is associated with a 5-7% incidence of embolism among those patients who have not received anticoagulant therapy *(Resnkov et al., 1967)*.

Anticoagulation decreases the risk of embolic event after cardioversion to less than 1.6% *(Weinberg et al., 1989)* but it carries its own risk and the patient must be rehospitalized for cardioversion after 3-4 weeks.

Transesophageal echocardiography is a highly accurate method for detecting atrial thrombi *(Manning et al., 1992)*.

The aim of this study is to assess the safety of cardioversion from atrial fibrillation without prolonged anticoagulation using transesophageal echocardiography to exclude atrial thrombi.

Review of Literature

Chapter I

Atrial Fibrillation

Prevalence, Aetiology & Risk of Embolization

Prevalence:

The overall prevalence of atrial fibrillation in the Framingham cohort study is 2.15% in men and 1.71% in women.

The incidence rises with age from approximately 0.2% for those age 25-35 years to approximately 3% for those 55 - 64 years old *(Kannel et al. 1982)*.

Aetiology:

The vast majority of patients with atrial fibrillation have organic heart disease.

In a clinical series of 230 patients with atrial fibrillation, *Hurst et al. (1964)* found that 92% had evidence of heart disease.

Hinton et al. (1977) in a postmortem series of patients with atrial fibrillation found that 95% had underlying heart disease.

Idiopathic atrial fibrillation or "lone" AF, accounts for fewer than 10% of cases of AF.