

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

**Thesis**

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Master Degree In Cardiology*

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**1994**







*To  
My Family*



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## **List of Abbreviations**

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|             |  |
|-------------|--|
| 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   |

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|            |   |
|------------|---|
| 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<br>[0 = No; I = Mild; II = Severe]            |
| TEE        | Transesophageal echocardiography  |
| TR         | Tricuspid regurgitation.  |
| TTE        | Transthoracic echocardiography  |

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# Introduction & Aim of The Work

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## ***Introduction & Aim of The Work***

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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 (*Resnikov 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

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## **Atrial Fibrillation**

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### **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.