

A Study of Underlying Cardiac and Non-Cardiac Risk Factors in Patients with Atrial Fibrillation.

K MAHMOOD, M A NADEEM, T WASEEM, T H MAHMUD, A H KHAN.

Department of Medicine, Mayo Hospital, Lahore.

Correspondence: Dr. Muhammad Arif Nadeem

Atrial fibrillation (A Fib) is associated with high incidence of morbidity and mortality. Numerous cardiac and non-cardiac risk factors for A Fib have been identified. We evaluated different patients of A Fib to find out both cardiac and non-cardiac risk factors for its occurrence. We studied 100 (44 males, 56 females) patients of A Fib and divided them into cardiac and non-cardiac groups. Eighty six (86%) patients (49 females, 37 males) were in cardiac group, out of which 49 (57%) had valvular heart disease (32 females, 17 males), 17 (20%) coronary heart disease (CAD) and 13 (15%) hypertension. Out of 14 (14%) patients of non-cardiac group 7 (50%) had lone A Fib and 7 (50%) had thyrotoxicosis, severe infection and chronic obstructive pulmonary disease. A Fib is the commonest chronic or recurrent arrhythmia whose incidence raised with age. Gender also affected it as female dominance was seen, consistent with other studies. Rheumatic heart disease was observed the main risk factor as compared to Western World where CAD and hypertension dominate. Lone A Fib was seen in comparable number with international data. Early recognition and treatment of these risk factors may help to reduce the occurrence of atrial fibrillation and its associated sequelae.

Key Words: Atrial fibrillation, Risk Factors, Cardiac, Non-cardiac.

Introduction

Prevalence of atrial fibrillation (A Fib) is 1% in the United States and the incidence increases with age, rising upto 10% over the age of 70 years¹⁻³. Atrial fibrillation is associated with high incidence of morbidity such as stroke, syncope and heart failure.⁴ The mortality from embolic stroke is considerably high in patients with atrial fibrillation (23%) when compared with patients in sinus rhythm (8%).⁵ Early diagnosis and proper management prevent long term complications associated with it¹. It is standard clinical practice to restore sinus rhythm and that if maintained would be associated with less long-term morbidity (fewer strokes, improvement of heart failure status including hospitalization for heart failure).

Numerous cardiac and non-cardiac risk factors for atrial fibrillation have been identified. In Western population hypertensive and ischemic heart diseases are at the top in causing atrial fibrillation, whereas rheumatic heart disease and thyrotoxicosis are declining in number.^{1,2}

The recognition of risk factors is important, as modification and treatment of these have additional benefits in not only reducing the incidence of atrial fibrillation but instituting the timely treatment would decrease the morbidity or mortality associated with this arrhythmia.⁶

Materials and Methods

This study was conducted in East Medical Ward of Mayo Hospital, Lahore, during February 1998 to March 1999. One hundred (100) consecutive patients presenting to Emergency Department or Out-door found to have an irregular pulse on examination or A Fib found on ECG for any reason were included in the study. A detailed history and systemic examination were recorded.

Echocardiography was performed in every case of A Fib. Thyroid function tests were performed only in selected patients or in patients having lone atrial fibrillation.

Aims and Objectives

1. To diagnose the cases of atrial fibrillation.
2. To find out both cardiac and non-cardiac risk factors for atrial fibrillation.

Statistical Evaluation

The arithmetic mean of the observations was first calculated. The standard deviation and significance were than calculated with the help of Student's t test.⁷

Results

A total of one hundred (100) patients with atrial fibrillation were included in this study. There were 44 (44%) male and 56 (56%) female patients. The patients were divided into two groups, cardiac and non-cardiac, depending upon the etiology of A Fib. There were 86 (86%) patients in cardiac group, among them 37 (43%) were male and 49 (57%) female. In the non-cardiac group there were 14 (14%) patients, among them 7 (50%) were male and 7 (50%) female.

The number of patients varies with age and was distributed in different age groups (table -1).

Risk Factors

These risk factors were divided into two groups, i.e. cardiac group and non-cardiac group. In the cardiac group majority of patients were having A Fib due to valvular heart disease i. e. 49 cases. Among these 23 (47%) patients had history of rheumatic fever in the past, while 26 (53%) had no history of rheumatic fever. In valvular group, the pure mitral stenosis was the predominant lesion being present in 38 (77.55%) patients out of these, 23 were female and 15 male patients. It showed that mitral stenosis is predominant lesion in female patients. Mitral stenosis combined with mitral regurgitation was found in 7 (14.30%) patients and mitral stenosis with aortic stenosis was found in 2 (4.08%) patient. Two (4.08%) patient had pure mitral regurgitation, (table 2).

In cardiac group hypertension and coronary artery disease were the other risk factors for atrial fibrillation

- 9. Skinner DG et al: Diagnosis and management of renal cell carcinoma. A clinical and pathological study of 309 cases. *Cancer*; 28:1165, 1971.
- 10. Sweeny JP; Thornhill JA; Graiger R; McDermott TE; Butler MR. Incidentally detected renal cell carcinoma: Pathological features, survival trends and implications for treatment. *Br. J. Urol*, 1996 Sep.78:3, 351-3.
- 11. Szabo' V; So'bel M; Balogh F. Ten years of diagnostic ultrasound in renal disease. *Int Urol Nephrol*, 15:3, 225-36, 1983.
- 12. Yashio ASO and Yukio Homma. A survey on incidental renal cell carcinoma in Japan. *The journal of Urology* Vol.147, 340-343, 1992.