Prevention of Thromboembolic Complication in Atrial Fibrillation by Using Anticoagulants

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Abstract

Introduction: Atrial fibrillation is the most common type of arrhythmia in adults. Atrial fibrillation occurs as paroxysms or may become established as permanent condition. Patients with atrial fibrillation are at increased risk for thromboembolic disease.

Aims and Objectives: To study effectiveness of Warfarin in reducing Stroke incidence in patients of Atrial Fibrillation.

Material and Methods: This hospital based case study was performed on 50 patients in Dr DY Patil Medical College and Research Centre from October 2009 to September 2011.

Results: Out of 50, 10 patients developed stroke which were not on Warfarin and 32 patients didn’t develop stroke who were on warfarin.

Conclusion: Warfarin significantly reduces incidence of stroke in AF patients.

Introduction

Atrial fibrillation is the most common type of arrhythmia in adults. Atrial fibrillation occurs as paroxysms or may become established as permanent condition. Patients with atrial fibrillation are at increased risk for thromboembolic disease.

Risk factors for thromboembolic complication in AF –
1. Age, gender, rheumatic heart disease, hypertension, ischaemic heart disease, prosthetic heart valves, congestive heart failure, history of stroke or transient ischaemic attack (TIA), prior thromboembolism.
2. Thromboembolic complications occur in form of
   - Ischaemic stroke....Thrombotic/embolic
   - Non cerebral embolism such as systemic arterial occlusion secondary to peripheral embolisation and pulmonary embolism.

The Framingham study done by Wolf PA, Kannel WB, McGee DL, et al. found that the incidence of clinically evident non CNS embolisation was about 5 per cent and incidence of cerebrovascular embolisation was 28 per cent.

The ACTIVE W (Atrial Fibrillation Clopidogrel Trial With Irbesartan for Prevention of Vascular Events) study done by Stefan H. Hohnloser, et al found in 5,492 patients with AF, 136 patients had strokes and 20 non-CNS systemic embolic events occurred.

Aims and Objective

To study effectiveness of Warfarin in reducing stroke incidence in patients of atrial fibrillation.

Table 1: Incidence of stroke in patients on warfarin and not on warfarin

<table>
<thead>
<tr>
<th></th>
<th>Patient on warfarin</th>
<th>Patient non on warfarin</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>0</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Negative</td>
<td>32</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>18</td>
<td>50</td>
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</tbody>
</table>
Material and Methods

- This hospital based case study was performed on 50 patients in Dr. DY Patil Medical College and Research Centre from October 2009 to September 2011 in whom ECG suggestive of atrial fibrillation i.e. absence of P waves and irregularly irregular R-R interval.
- 12 lead ECG at the time of admission were recorded.
- 2D Echocardiography and Chest X-ray findings were recorded.
- CT brain of thromboembolic complication patients i.e. stroke were recorded
- Informed consent of 50 patients taken and approved by ethical committee of Dr. DY Patil Medical College, Pimpri, Pune.

Statistical Analysis

- The statistical software namely SPSS 11.0 was used for the analysis of the data and Microsoft Word and excel have been used to generate graphs, Tables, by using chi-square test, t-test. P value less than 0.05 considered as significant.

Results

Chi-Square = 22.22, P < 0.0001.

Out of 50, 10 patients developed embolism which were not on Warfarin.

Discussion

Incidence of embolism in patients on warfarin therapy and not on warfarin in AF : In present study embolism i.e. stroke developed in 10 patients who were not on warfarin. Other 32 patients didn’t develop embolism as they were on warfarin (Table 1, Figure 1).

Stanley G et al⁵ reported that warfarin reduces the risk of embolism by 68% in AF patients.

Karlheinz Seidl et al⁶ found that incidence of embolism was 7.7% in patients with AF and effective anticoagulation.

Conclusion

In patients of AF even in controlled rate it is necessary to start and continue with warfarin to prevent thromboembolic complication.

References


Fig. 1 : Bar diagram showing association between Embolisation and patient on warfarin in study group