Impact of AF type on the outcome of atrial fibrillation ablation: insights from the CABANA trial

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Topic(s):
Catheter Ablation of Arrhythmias

Citation:

Funding Acknowledgements:
NIH, St Jude Medical Foundation and Corporation, Biosense Webster Inc., Medtronic Corporation, and Boston Scientific Corporation

Background: Prior studies suggest that catheter ablation (ABL) for atrial fibrillation (AF) is a treatment option for patients (pts) with paroxysmal AF (PAF). Pts with persistent (Per) or long-standing persistent (LSP) were routinely excluded from most ABL based clinical trials. The effectiveness of ABL compared to drug therapy (MED) in relation to underlying AF type has not been evaluated in a large randomized clinical trial.

Objective: To assess the impact of AF type on clinical outcomes of ABL vs. MED in pts with AF.

Methods: The CABANA trial randomized 2204 pts with AF at 126 sites worldwide to ABL vs. MED with rate or rhythm control drugs. The primary endpoint was a composite of death, disabling stroke, severe bleeding, or cardiac arrest. Key secondary endpoints included mortality and recurrence of AF. Outcomes of ABL vs. MED were compared within subgroups defined by AF type using Intention-to-Treat (ITT) analyses.

Results: Of the 2204 pts, 946 had PAF, 1042 had Per and 215 presented with LSP. There were baseline differences among AF types in age, gender, HTN, LVH, CHF and NYHA Class. For the primary endpoint, there were no significant differences between ABL and MED in pts with PAF (hazard ratio (HR) 0.82; 95% confidence interval (CI) 0.51, 1.31), Per (HR 0.87; 95% CI 0.59, 1.28), or LSP (HR 1.01, 95% CI 0.39, 2.61). Likewise, there were no significant treatment differences in mortality; PAF (HR 0.84; 95% CI 0.46, 1.52), Per (HR 0.90; 95% CI 0.56, 1.46) and LSP (HR 0.67, 95% CI 0.23, 1.94). Post-blanking AF (time to first recurrence) was significantly reduced by ABL compared to MED across all AF types (PAF by 51%), (Per by 47%) and (LSP by 36%).

Conclusion: Pts with LSP have a lower proportion of women, and a higher proportion with manifestations of heart failure despite lower CHA2DS2VASc scores. By ITT analysis, there is no significant effect of ABL compared to MED in the primary endpoint or mortality in any AF group. However, ABL is more effective than MED for reducing recurrences of AF regardless of AF type, but with a greater effect in PAF vs Per vs LSP.

<table>
<thead>
<tr>
<th>Clinical Outcomes Comparing</th>
<th>ABL vs. MED (HR and 95% CI)</th>
<th>Interaction p-value</th>
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<tbody>
<tr>
<td>Primary Endpoint</td>
<td>0.82 (0.51, 1.31)</td>
<td>0.925</td>
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<tr>
<td>Mortality</td>
<td>0.84 (0.46, 1.52)</td>
<td>0.881</td>
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<tr>
<td>Recurrent AF</td>
<td>0.49 (0.38, 0.62)</td>
<td>0.564</td>
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