HOW DOES LEFT ATRIAL APPENDAGE OCCLUSION USING THE WATCHMAN DEVICE COMPARE TO DABIGATRAN FOR REDUCING THROMBOEMBOLIC EVENTS IN PATIENTS WITH NONVALVULAR ATRIAL FIBRILLATION?

ACC Poster Contributions
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Background: Two recent trials demonstrated noninferiority of left atrial appendage occlusion using the WATCHMAN device (WD) and dabigatran (Db), an oral direct thrombin inhibitor, in reducing thromboembolic events compared with warfarin in patients with nonvalvular atrial fibrillation (NVAF). However, there are currently no direct comparisons of WD with Db.

Objective: To determine the effectiveness of WD versus Db in reducing stroke outcomes using an indirect comparison (IC) approach.

Methods: Valid IC must examine common comparator, equivalent doses, similar populations, and similar outcomes reported in the same manner. We performed IC of WD versus Db (100 and 150mg bid dose) using data from PROTECT-AF (WD vs Warfarin) and RE-LY (Warfarin vs Db) trials according to the formula:

Relative risk (RR)WD vs Db = (RRWD vs Warfarin) x (RRWarfarin vs Db)

Trials were comparable in terms of patient population (mean CHADS2 score 2), baseline characteristics, AF type, and outcomes. RR margins of 2.0 (PROTECT-AF) and 1.46 (RE-LY) were used to establish noninferiority.

RESULTS (Table): No significant difference was observed between WD and Db. Noninferiority of WD was established only for total stroke compared with Db 110mg dose using the margin of 2, but not for any endpoint using margin of 1.46.

Conclusion: These results suggest that the WATCHMAN device would fail to meet noninferiority compared with dabigatran. A head-to-head prospective randomized trial comparing the 2 approaches is warranted in patients with NVAF.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>WATCHMAN vs Warfarin (PROTECT-AF)</th>
<th>Warfarin vs Dabigatran 110 (RE-LY)</th>
<th>WATCHMAN vs Dabigatran 110 (Indirect Comparison)</th>
<th>Warfarin vs Dabigatran 150 (RE-LY)</th>
<th>WATCHMAN vs Dabigatran 150 (Indirect Comparison)</th>
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</thead>
<tbody>
<tr>
<td>Total stroke</td>
<td>0.71 (0.35-1.64)</td>
<td>1.09 (0.88-1.35)</td>
<td>0.77 (0.35-1.72)</td>
<td>1.56 (1.23-1.96)</td>
<td>1.11 (0.50-2.48)</td>
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<td>Hemorrhagic stroke</td>
<td>0.09 (0.00-0.45)</td>
<td>3.23 (1.79-5.88)</td>
<td>0.29 (0.01-6.52)</td>
<td>3.85 (2.04-7.14)</td>
<td>0.35 (0.02-7.82)</td>
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<tr>
<td>Ischemic stroke</td>
<td>1.34 (0.60-4.29)</td>
<td>0.90 (0.71-1.12)</td>
<td>1.21 (0.44-3.31)</td>
<td>1.32 (1.02-1.67)</td>
<td>1.76 (0.64-4.86)</td>
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<tr>
<td>Major bleeding</td>
<td>0.84 (0.39-1.83)</td>
<td>1.25 (1.08-1.45)</td>
<td>1.05 (0.48-2.31)</td>
<td>1.08 (0.93-1.23)</td>
<td>0.90 (0.41-1.98)</td>
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