Abstract: P3733

Long term follow-up after percutaneous closure of patent foramen ovale for secondary prevention of stroke

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On behalf: ACTION study group

Topic(s):
PFO/ASD Closure

Citation:

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ACTION study group

Background Recent randomized trials have demonstrated the superiority of percutaneous patent foramen ovale (PFO) closure for the secondary prevention of stroke compared to antithrombotic therapy. However, real-world data on long-term outcomes after percutaneous PFO closure are scarce.

Purpose To describe real-world long-term outcomes following PFO percutaneous closure and the impact of the use of intracardiac echocardiography under local anesthesia for the procedure

Methods All consecutive patients undergoing PFO closure in a single high-volume tertiary center from January 2006 to December 2018, for secondary prevention of stroke, transient ischemic attack (TIA) or any other paradoxical arterial embolism were prospectively studied. A systematic contrast transthoracic echocardiography (TTE) was performed 3 months after closure. Clinical endpoints of interest were the occurrence of death, stroke or transient ischemic attack, as defined in previous randomized trials.

Results Of the 242 closure procedures performed, a total of 208 (86.3%) were performed in secondary prevention of stroke, TIA or paradoxical arterial embolism (mean age 49.8 ± 12.7 years; 62.0% male). An atrial septal aneurysm and a large shunt were present in 137 (66.8%) and 172 (84.7%) patients, respectively. General anesthesia associated with transesophageal echocardiography was initially used in all patients with a temporal trend towards the use of local anesthesia associated with either intracardiac echocardiography (Viewflex catheter, Abbott) in 23 more cases or micro transesophageal probe in 7 cases, without periprocedural complications. Discharge medication comprised of dual antiplatelet therapy, oral anticoagulation and single antiplatelet therapy in 80.7%, 16.8% and 2.5% of the patients, respectively. Contrast TTE with Valsalva maneuver was performed at a mean delay of 3.2 ± 0.7 months after intervention and found no or minimal residual shunt in 87.0% of patients. Clinical follow-up was available up to 12.8 years (mean 2.1 ± 3.0 years). A total of 3 patients died from cancer or unknown cause while stroke and TIA occurred in 2 and 1 patients, respectively. Event rate for death was 0.69 events per 100 patients-years. The event rates for stroke, TIA and stroke or TIA were 0.46, 0.23 and 0.70 events per 100 patients-year of observation, respectively, which compare favorably with reported outcomes following percutaneous closure in randomized clinical trials (Figure).

Conclusion In an experienced center, percutaneous PFO closure appears to be a safe procedure providing adequate protection against recurrent strokes over a long follow-up.
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<table>
<thead>
<tr>
<th>Event rates (per 100 patients-years)</th>
<th>Pitié Salpêtrière PFO registry</th>
<th>RESPECT trial PFO arm</th>
<th>REDUCE trial PFO arm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ischaemic stroke</td>
<td>0.46</td>
<td>0.58</td>
<td>0.39</td>
</tr>
<tr>
<td>TIA</td>
<td>0.23</td>
<td>0.54</td>
<td>Not reported</td>
</tr>
</tbody>
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