Perspective

Patent Foramen Ovale and Cryptogenic Strokes: Is Device Closure Necessary?

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Received: March 19, 2017; Accepted: March 27, 2017; Published: March 31, 2017

It is very important to remember when evaluating a patient for the presence of a PFO, that a PFO is present in approximately 25 % of the general healthy population.

A systematic review and meta-analysis of observational studies showed the annual rate of strokes after PFO-closure is approximately 0.3–0.8 %, lower than the 1.98–5.0 % in the medical group [3,7]. This translates into an 84% reduction in the rate of recurrent neurological events when compared to medical management alone.

A prospective study with long term follow-up showed that the presence of a substantial residual shunt after TC-PFO closure was an important predictor of recurrent neurological events with a relative risk of 4.2 [8]. Therefore, the use of a second device for secondary prevention of recurrent neurological events has been an important clinical question. In a retrospective study by Diaz et al., 424 patients with at least a 5 % substantial residual shunt found that the placement of a second device was safe and effective in treating the residual shunt. Moreover, there were no neurological events at a mean follow-up of 3 years. However, the clinical significance of treating residual shunts with a second device would be at least difficult to prove, since the event rate is low even with untreated PFOs [9].

The decision to conduct a device closure and to prevent the occurrence of cryptogenic strokes is still in nascent stage without any firm guidelines coming up. The individual cardiologist has the discretion to decide device closure particularly in those PFO with stroke prone anatomy, particularly lung tunnel type PFO length >16mm. However there is a problem of residual shunt after the first device has been in place in PFO to prevent the incidence of strokes, in which the cardiologist sometimes opt for a second device to close the residual shunt and minimize cryptogenic strokes.

References

