MOST RECURRENT EVENTS AFTER PATENT FORAMEN OVALE CLOSURE ARE NOT DUE TO RESIDUAL SHUNTS

i2 Poster Contributions
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Background: This is a retrospective study about the long term follow-up of patients who underwent interventional Patent Foramen Ovale (PFO) closure in order to prevent recurrent paradoxical embolism. The purpose of this analysis was specifically to identify potential causes of recurrent events.

Methods: 1830 patients with a mean age of 50 ± 13.3 years underwent transcatheter PFO closure. 14 different double disc closure systems and two in-tunnel devices were used. The total number of cerebrovascular and peripheral embolism prior to PFO closure was 2565. This resulted in an annual recurrence rate of 22.7% (736 events in 3242 patient years) before PFO closure.

Device implantation was technically successful in the first (1796 of 1830 pts) or second session (34 of 1830 pts). Complete closure of the PFO was shown in the last Transesophageal Echo in 91.8% one month or later after the procedure. Complications were few and manageable in the majority of cases.

Results: During a follow-up ranging from 1 to 167 months (mean 40) 63 recurrent events were diagnosed: 25 strokes, 35 Transient Ischemic Attacks (TIA) and 3 peripheral embolisms. The overall annual recurrence rate after the procedure was 1% per year (63 events in 6141 patient years). The majority of events occurred in patients without a residual shunt (55/63). The most common cause for non-paradoxical ischemic stroke and TIA was arteriosclerosis.

8 out of 63 events were defined as questionable paradoxical embolism (Stroke (1), TIA (5), peripheral embolism (2)) since a residual shunt existed in these patients, however, other risk factors coexisted.

The annual recurrence rate of paradoxical embolism including questionable cases was 0.13% per year (8 events in 6141 patient years).

Conclusion: The majority of events occurred in patients without residual shunt.

Therefore, the recurrent event rate is largely influenced by other risk factors as additional risk factors develop during long term follow-up and may cause neurological events.