



Patent foramen ovale: A mystery not yet resolved.

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Introduction

Considerations for cryptogenic stroke (CS) and patent foramen ovale (PFO) closures in CS patients have garnered much debate over the years. Standing guidelines recommend against routine PFO closures in CS patients, yet recent research may suggest otherwise. Emerging evidence indicates that antiplatelet therapy (AP) coupled with PFO closure, versus AP therapy alone, is more effective in reducing stroke recurrence. Nevertheless, these recent findings may warrant further corroboration, particularly through clinical case studies.

Clinical Case

A 66-year-old male presented with left-sided weakness. His medical history included ischemic stroke, human immunodeficiency virus infection, hepatitis C, lung cancer and anal cancer. The MRI of his brain showed multiple acute ischemic infarctions in the right hemisphere and left cerebellum. Vasculitides, carotid stenosis, and lower extremity deep vein thrombosis were ruled out. Transesophageal echocardiogram revealed atrial septal aneurysm, a PFO without left atrial enlargement, and < 4 mm atheromas in the transverse and descending aorta. With no evidence of atrial fibrillation (AF) on telemetry for three days, the patient was discharged with a diagnosis of CS and on statin and aspirin. He later returned with a new left-sided facial droop. A 3-second rhythm of AF was detected on telemetry on the second day.

Discussion

Following current guidelines, we did not opt for closing PFO for our patient during the first admission. The question arises whether such an intervention would have reduced the chances of a subsequent stroke, despite the AF finding. Even though our patient was elderly, he had excellent baseline functional status and experienced recurrent strokes. Although recent data indicate benefits of PFO closure in CS patients, whether these recent findings are applicable to older patients with other vascular comorbidities remains open to further investigation. We suggest a case based approach to the management of CS, in which a patient's functional status is considered along with any contraindications and risk of bleeding.

References:

1. Patent Foramen Ovale Closure or Antiplatelet Therapy for Cryptogenic Stroke. Søndergaard L, Kasner SE, Rhodes JF, Andersen G, Iversen HK, Nielsen-Kudsk JE, Settergren M, Sjöstrand C, Roine RO, Hildick-Smith D, Spence JD, Thomassen L, Gore REDUCE Clinical Study Investigators N Engl J Med. 2017;377(11):1033. <https://www.ncbi.nlm.nih.gov/pubmed?term=28902580>
2. Long-Term Outcomes of Patent Foramen Ovale Closure or Medical Therapy after Stroke. Saver JL, Carroll JD, Thaler DE, Smalling RW, MacDonald LA, Marks DS, Tirschwell DL, RESPECT Investigators N Engl J Med. 2017;377(11):1022. <https://www.ncbi.nlm.nih.gov/pubmed?term=28902590>
3. Patent Foramen Ovale Closure or Anticoagulation vs. Antiplatelets after Stroke. Mas JL, Derumeaux G, Guillon B, Massardier E, Hosseini H, Mechtouff L, Arquizan C, Béjot Y, Vuillier F, Detante O, Guidoux C, Canaple S, Vaduva C, Dequatre-Ponchelle N, Sibon I, Garnier P, Ferrier A, Timsit S, Robinet-Borgomano E, Sablot D, Lacour JC, Zuber M, Favrole P, Pinel JF, Apoil M, Reiner P, Lefebvre C, Guérin P, Piot C, Rossi R, Dubois-RandéJL, Eicher JC, Meneveau N, Lussion JR, Bertrand B, Schleich JM, Godart F, Thambo JB, Leborgne L, Michel P, Pierard L, Turc G, Barthelet M, Charles-Nelson A, Weimar C, Moulin T, Julliard JM, Chatellier G, CLOSE Investigators N Engl J Med. 2017;377(11):1011. <https://www.ncbi.nlm.nih.gov/pubmed?term=28902593>
4. Patent Foramen Ovale after Cryptogenic Stroke - Assessing the Evidence for Closure. Farb A, Ibrahim NG, Zuckerman BD N Engl J Med. 2017;377(11):1006. <https://www.ncbi.nlm.nih.gov/pubmed?term=28902595>