What a Shunt!—a case of Patent Foramen Ovale

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Abstract

Background: The presence of atrial septal defects or patent foramen ovale (PFO) is strongly associated with the presence of cryptogenic stroke especially in younger population. The mechanism by which atrial septal aneurysms contribute to brain embolism has not been satisfactorily clarified but these lesions can harbour thrombi. The authors present a case of patent foramen ovale in a young female.

Case: A 36-year-old female presented in the emergency department with acute onset left hemiparesis and dysarthria. She was otherwise healthy, was under birth control with desogestrel and had a previous family history of stroke (her aunt had an ischemic stroke at 59-years of age). She gave birth to a healthy boy two years ago and had no previous history of miscarriage. A brain computed tomography (CT) with contrast was performed revealing an acute right insula infarct with evidence of thrombus in the right sylvian artery. However, after discussion with stroke team, neither thrombolysis nor thrombectomy was performed and the patient was admitted to further study. A magnetic resonance was performed confirming acute stroke and partial recanalization of the culprit vessel. The remaining study was unremarkable except for echocardiogram revealing atrial septal aneurysm and significant right-to-left shunt suggestive of PFO. She started anticoagulation and a PFO transcatheter closure was performed. She remained uneventful ever since.

Conclusion: The available data regarding optimal treatment of PFO related strokes are inconclusive. The presence of both a PFO and an atrial septal aneurysm substantially increases the risk of stroke occurrence. Large defect, spontaneous right-to-left shunting, and large number of bubbles shunted may indicate a higher risk of paradoxical embolism. Anticoagulation and surgical or transcatheter closure are the available treatment strategies.