Patent Foramen Ovale with Atrial Septum Aneurysm Presenting with Amaurosis Fugax

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**Introduction**: A patent foramen ovale (PFO) is an embryological remnant found in more than 25% of adults and more than half with concurrent atrial septal aneurysm (ASA). Although PFO are asymptomatic, this can result in clinical thromboembolic manifestations, including amaurosis fugax. Amaurosis fugax is a transient monocular vision loss which usually occurs in men aged over 50 yo who have vascular risk factors which placing them at higher risk of cerebral stroke.

**Methods**: A 54-yo male was referred from ophthalmologist with sudden and transient right eye vision loss. He has poor controlled dyslipidemia and family history of stroke. The appropriate investigations were carried out include the laboratory studies, echocardiogram, and brain MRI. The laboratory results showed total cholesterol of 217 mg/dL and LDL-C 171 mg/dL. The brain MRI was unremarkable, the TTE showed good LV function and mild dilated RV, the coronary CT which previously done in other hospital showed mild coronary lesion, over the re-expertise, revealed dilated right ventricle and small-narrowed channel like of intraatrial septum. The TEE was then carried out using agitated saline-bubble contrast, revealed the bubbles across the septum from right atrium to left atrium. The PFO with concurrent ASA was confirmed.

**Result**: Patients with PFO associated with ASA are at higher risk of thromboembolic events. In this case, The patient has amaurosis fugax as an initial presentation, which may associated with the risk of future ischemic stroke. There has been ongoing debate about the role of percutaneous closure of PFO compared to medical therapy with antiplatelets or anticoagulants. Since this patient is younger than 60-yo, no evidence of aortic arteriosclerosis disease nor hypercoagulable disorders, no vascular risk factor other than dyslipidemia, no evidence of atrial fibrillation and no terminal illness, this patient has meet the criteria for PFO Closure. Furthermore, the co-existence of ASA, may enhanced the reason for PFO closure.

**Conclusion**: Based on the evidence-based algorithm for PFO closure by Mojadidi MK, et al, this patient presenting with amaurosis fugax and PFO with concurrent ASA is eligible to have a PFO closure. The detailed and thorough investigation should be carried out in patients with amaurosis fugax to reveal all possible causes and implement the appropriate management accordingly. The relative safety and simpicity of PFO closure and the proven protection against stroke open an avenue of further indications for PFO closure, such as in the presence of other potential causes of stroke or even as primary prevention of stroke in high-risk persons.