A hole in the heart

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Abstract

**Background:** Up to 10-40% of all acute ischemic strokes have no obvious underlying cause, being defined as cryptogenic strokes. Patent Foramen Ovale (PFO) is found in nearly 25% of general population and its prevalence among cryptogenic stroke population accounts for 40-50%.

**Case Presentation:** A 42-year-old right-handed fisherman, previously Rankin 0, was referred to the Emergency Department with aphasia and right hemiplegia for one-hour. Patient was alcoholic but denied head trauma. He had been immobilized during the previous week due to a patellar dislocation. Physical, cardiologic and neurologic examinations were normal, except for the motor aphasia and right hemiplegia. Cranial computed tomography and angiotomography showed no abnormalities. He underwent fibrinolytic treatment with almost full recovery from previous focal lesions. The magnetic resonance imaging of the brain showed signs of acute (<6h) infarcts along the left middle cerebral artery territory. Laboratory tests included normal complete blood count and routine blood chemistries, serology, autoimmunity and thyroid stimulating hormone. Electrocardiogram showed normal sinus rhythm. Carotid and vertebral Doppler scans, as well as the transthoracic echocardiography, were normal. Without any apparent cause, it was requested a second transthoracic echocardiography, which revealed the presence of the PFO during Valsalva maneuver and discrete right atrium enlargement. The patient was discharged anticoagulated and referred to a Cardiology consult to discuss treatment options.

**Conclusions:** PFO should be investigated especially among patients without any other obvious cause for stroke. However, larger studies need to be performed in order to support the correlation between interatrial septal abnormalities and ischemic stroke in young adults.