Abstract

Background: Patent Foramen Ovale (PFO) closure is superior to medical treatment in secondary ischemic stroke prevention in highly selected patients. The presence of residual shunts can occur in 2–10%, and additional conditions that can result in right-left shunt (RLS) although uncommon, should be investigated.

Clinical case: A 69-year old man, with previous medical history of hypertension, diabetes and chronic venous insufficiency, was admitted after multi-territorial transient ischemic attacks (TIAs) and recurrence of events under antplatelet treatment. There were no signs of acute ischemia on MRI, atherosclerotic disease was excluded with carotid and transcranial ultrasound, and no relevant rhythm changes were found in a 24-hour Holter monitoring. The transcranial Doppler (TCD) revealed RLS, with a spontaneous shower pattern, and presence of PFO was confirmed with transoesophageal echocardiography (TEE). Paradoxical embolization was suspected due to presence of asymptomatic sub-segmental pulmonary embolism on lung scintigraphy, but venous thromboembolism was excluded on Doppler ultrasound. Thrombophilia work-up was negative and he was started on oral anticoagulation. Nevertheless, there was a TIA recurrence and urgent PFO closure was performed. The Risk of Paradoxical Embolism Score was only 2. Persistent RLS was found on 1 year-follow-up TEE from the left pulmonary vein. With TCD, only mild RLS subsided. No arteriovenous malformation was identified on thoracic CT. The patient was kept under oral anticoagulation, without new neurological signs.

Conclusions: This case reports a situation where PFO closure was important despite failing current criteria for patient selection (older than 60 years, presence of comorbidities, no cortical infarct on imaging). Persistent RLS on follow-up raises the concern of incomplete closure or other sources of shunting. In this case, although an additional RLS source was found on TEE, no vascular events occurred and only mild shunting persisted on TCD.