



## ORAL PRESENTATION

# Cryptogenic stroke in patients with an extracardiac shunt

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### Abstract

**Introduction:** About one third of ischaemic strokes remain without identified aetiology despite extensive investigation. Possible aetiologies are paroxysmal atrial fibrillation, cancer associated or paradoxical embolism.

**Case Reports:** We report three patients, aged between 60 and 64 years old, admitted with an acute ischaemic stroke demonstrated by MRI. Only one had common vascular risk factors. Aetiologic investigation was performed: duplex-ultrasound (DUS) revealed slight carotid atheromatosis and, in one patient, symptomatic distal vertebral occlusion; extensive laboratory study (including assessment of autoimmunity and thrombophilia), holter monitoring, and transthoracic echocardiogram were unremarkable; detection of right-to-left shunt (RLS) by transcranial DUS was positive; transoesophageal echocardiogram excluded patent foramen ovale, congenital cardiac defects and potential cardioembolic sources; pulmonary CT angiography excluded pulmo-

nary arteriovenous fistulas or shunts and only one patient demonstrated pulmonary embolism; venous leg DUS were normal. The diagnosis of cryptogenic stroke was established. On follow-up, one patient suffered recurrent stroke. Second transoesophageal echocardiogram remained normal; transcranial DSU with shunt detection were repeated (only in two patients yet), maintaining RLS.

**Discussion:** We present three patients with an embolic pattern of cerebral infarction and RLS of unknown localization. Unproven paradoxical stroke is one of the possible aetiologies, given the presence of RLS, however evidence of a venous source of embolism is lacking in two patients. Although the majority of RLS have cardiac origin, our cases are extracardiac, with the localization remaining a diagnostic challenge. Prompt and timely diagnostic workout is fundamental to choose the best therapy and to reduce the stroke recurrence risk.

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