

# Ischemic stroke in a patient with Crohn's disease

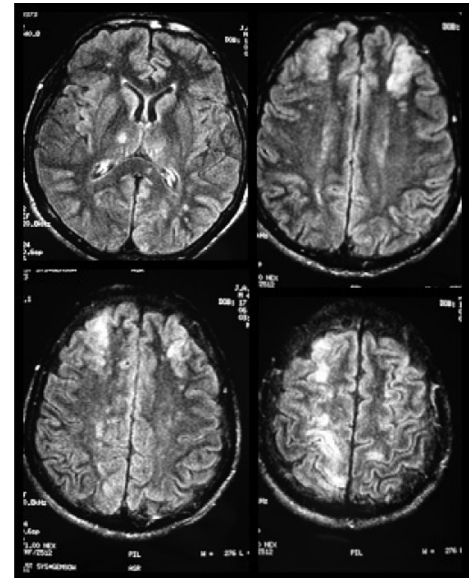
## A confirmed paradoxical embolism mechanism

Marcos C. Lange, Laura N. Zamproni, Vera Braatz,  
Artur F. Fernandes, Viviane F. Zetola, Edison M. N6vak

Ischemic stroke (IS) in young adults is challenging because no etiology is found in about 30% of these patients, and therefore, they are classified as cryptogenic IS<sup>1</sup>. It is now recognized that the prevalence of a patent foramen ovale (PFO) is higher in this population<sup>2</sup>. However, the simple existence of a right-to-left shunt (RLS) does not seem to be enough to explain the mechanism of the IS, and other significant factors must be present<sup>3</sup>. The aim of this study is to report a patient with Crohn's disease (CD) who presented with an IS after the withdrawal of a central venous catheter (CVC) due to an embolus from the right atrium through an undiagnosed PFO.

### CASE

The patient was a white, 45-year-old male with a diagnosis of CD 20 years ago. He was admitted to the hospital for total parenteral nutrition through a CVC in his right internal jugular vein because of an enterocutaneous fistula. Ten days later, during the withdrawal of the CVC, the patient presented a generalized tonic-clonic seizure and persisted with impaired consciousness (Glasgow Coma Scale=9), partial gaze palsy, partial facial palsy, and left hemiplegia (NIH stroke scale=19). The brain CT was normal, and the brain MRI showed the presence of ischemic lesions localized in the right thalamus, the bilateral frontal lobe, and the parietal lobe (Fig 1). The extracranial duplex ultrasonography was normal, and the contrast-enhanced transcranial Doppler showed the presence



**Fig 1.** Ischemic stroke with an emboligenic pattern (cortical) observed by an axial brain MRI (FLAIR).

of high intensity transitory signals in a curtain pattern during rest and with a Valsalva's maneuver test. The contrast-enhanced transesophageal echocardiography confirmed the presence of a PFO and demonstrated an atrial septum aneurysm (ASA) and the existence of a right atrial thrombus of 2.5 × 0.3 cm near the interatrial septum (Fig 2). Oral anticoagulation therapy (warfarin) was introduced as secondary stroke prevention. In the following days, the patient's level of the conscience improved, but the left hemiplegia persisted. The modified Rankin Scale was a 3 after 30 days, 2 after 90 days, and 1 after 270 days.

### Correspondence

Marcos Christiano Lange  
Rua General Carneiro 181 / 4º andar  
Hospital das Clínicas  
Serviço de Neurologia  
80060-900 Curitiba PR - Brasil  
E-mail: lange@ufpr.br

Received 28 June 2009

Received in final form 16 September 2009

Accepted 23 September 2009

### ACIDENTE VASCULAR ISQUEMICO EM PACIENTE COM DOENÇA DE CROHN: UM EMBOLISMO DE MECANISMO PARADOXAL CONFIRMADO

Cerebrovascular Diseases Unit, Neurology Division, Internal Medicine Department, Clinical Hospital, Federal University of Paraná, Curitiba PR, Brazil.

