

## Images in clinical medicine



# Ischemic stroke in a young patient: role of a bubble test

Benmallem Othmane, Aqli El Mehdi

**Corresponding author:** Benmallem Othmane, Department of Cardiology, Ibn Rochd University Hospital, Casablanca, Morocco. o.benmallem@gmail.com

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## Ischemic stroke in a young patient: role of a bubble test

Benmallem Othmane<sup>1,&</sup>, Aqli El Mehdi<sup>1</sup>

<sup>1</sup>Department of Cardiology, Ibn Rochd University Hospital, Casablanca, Morocco

### **&Corresponding author**

Benmallem Othmane, Department of Cardiology, Ibn Rochd University Hospital, Casablanca, Morocco

## Image in medicine

A 29-year-old female patient, with a known history of erythematosus disseminatus lupus, consulted for a left hemiplegia with aphasia and central facial paralysis, the cerebral CT scan showed an ischemic stroke in the territory of the superficial right Sylvian artery. The neurologist asked as part of the etiological assessment for an echography of the supra-aortic trunks which appeared normal as well as a trans-thoracic echography which appeared initially without anomalies. By taking into consideration the young age of the patient and his history of systemic disease, we mentioned a permeable oval foramen (POF), then we completed the assessment with a bubble test with concomitant transthoracic echocardiography

which revealed a passage of more than 30 bubbles through the POF after Valsalva maneuver. POF is present in 25% of individuals. Most of the time, patients with this anomaly are asymptomatic. Nevertheless, it is important to mention its presence in front of any signs of arterial ischemia such as a stroke attesting to a paradoxical

embolism. Its pathophysiology is based on a persistent, intracardiac right-to-left shunt with the migration of a thrombus from the right cavities to the left heart through the POF. The management is based either on a drug treatment, or on the closure of the intracardiac shunt within a synthetic prosthesis, by surgery or percutaneously.



**Figure 1:** an apical view of the heart showing the migration of bubbles from the right to the left atrium through oval foramen