Double atrial septum with persistent interatrial space and transient ischaemic attack

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We present the echocardiographic images of a patient with transient ischaemic attack with double atrial septum and persistent interatrial space as probable source of thrombus. A patent foramen ovale could be excluded and a communication between left atrium and interatrial space could be demonstrated.

KEYWORDS
Double atrial septum; Persistent interatrial space; Transient ischaemic attack; Echocardiography

A 27-year-old woman with transient neurological deficit was admitted to the department of neurology. She was a smoker. Other cardiovascular risk factors could not be found. Coagulation abnormalities could be excluded. There were no pathological findings in CCT and duplex sonography of the supra-aortic vessels.

Apart from an undulating structure on the left side of the interatrial septum transthoracic echo was normal.

Transesophageal echocardiography (Figure 1A) demonstrated a membrane adjacent to the interatrial septum that showed some degree of mobility. This membrane separated an interatrial space from the left atrium.

Colour Doppler echocardiography showed flow into this third chamber from the left atrium, low circulating flow within it (Figure 1B) and flow out of it into the left atrium (Figure 1C). Contrast echo with a right heart contrast agent (Figure 1D) excluded the presence of a patent foramen ovale.

Anticoagulation therapy with phenprocoumon was started on the assumption that the aetiology of the transient ischaemic attack was thrombus formation within this interatrial space.

Discussion

The presence of low flow within the interatrial chamber and the persistent communication with the left atrium characterize this chamber as a source of cardiogenic embolism. A persistent foramen ovale and other sources of embolism had been ruled out. Thus, anticoagulation therapy was initiated.

Double atrial septum with persistent interatrial space is a rare anomaly. An overview on four cases with interatrial shunt was published recently.1,2 A case of coronary embolus from an interatrial space with complete resolution on anticoagulation therapy was reported by Breithardt et al.3

As aetiology an abnormality of the atrial primum septum is suggested by Javois and Roberson.2

Conflict of interest: none declared.

Figure 1 (A) TEE view of interatrial chamber. (B) Diastolic inflow into interatrial chamber (white arrow heads). (C) Systolic flow out of interatrial chamber (brown arrow heads). (D) Contrast echo without demonstration of right to left shunt.

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References

