Diagnosis of Right-to-Left Shunt: Possible Alternative Approaches

To the Editor:

We read with great interest the recent article by Del Sette et al about diagnosis of right-to-left shunt with vertebrobasilar doppler examination.

So far, neurologists used transtemporal recordings based on the manuscript by Teague and Sharma. The emboli detection is in fact limited by insufficient temporal bone window in 10% to 20% of stroke patients. A probably even greater limitation is the lack of transcranial examination expertise in local hospitals treating stroke patients. Unfortunately, this issue cannot be solved by a transnuchal emboli detection technique.

Recordings at the common carotid artery should be considered as a possible alternative technique. This method was already described by Draganski et al in 2005 but did not find its way into broad clinical practice. Performance and visualization of high-intensity transient signals using contrast-enhanced harmonic carotid duplex and Doppler sonography are simple. Findings in a patient with a patent foramen ovale can be seen in the Figure.

It might turn into a feasible option for local hospitals and for patients without a sufficient acoustic bone window in stroke centers if sensitivity and specificity will turn out to be comparable to the established methods.


Figure. Recording of high-intensity transient signals with extracranial doppler at the common carotid artery after injection of 5 mL contrast agent (Echovist, Bayer Vital, Leverkusen, Germany) and Vasalva maneuver. More than 10 high-intensity transient signals and a curtain effect could be seen. A comparable finding was seen at the middle cerebral artery.
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