Definity Contrast Artifact in Transcranial Doppler Emboli Monitoring

Definity (perflutren lipid microsphere) is nonblood-based ultrasound contrast agent approved by the United States Food and Drug Administration for use in patients with suboptimal echocardiograms to improve the delineation of the left ventricular endocardial border. Microspheres are not detectable after 10 min in most individuals in clinical trials either in the blood or in expired air and concentrations in blood declines in a monoexponential fashion with a mean half-life of 1.3 min. However, Definity contrast might have a longer half-life than suggested and may interfere with transcranial Doppler (TCD) emboli monitoring.

A 38-year-old female with hypertension and postpartum cardiomyopathy presented with focal left-sided neurologic deficits. Initial National Institutes of Health Stroke Scale (NIHSS) score was 16. She received intravenous alteplase. Magnetic resonance imaging brain showed acute right middle cerebral artery (MCA) infarct. Intracranial magnetic resonance angiogram was unremarkable. She underwent
Transcranial Doppler emboli monitoring done 2 h after Definity contrast showing artifactual embolic hits in the left middle cerebral artery (a and b) and right middle cerebral artery (c) distribution. Arrows showing embolic hits as well as the number of embolic hits in a-c. Repeat transcranial Doppler emboli monitoring after 4 h (d) does not show any embolic hit (arrows).

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

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References


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How to cite this article: Ramanathan RS. Definity contrast artifact in transcranial Doppler emboli monitoring. J Neurosci Rural Pract 2018;9:284-6.