Thrombolysis-resistant intracranial clot

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Figure Macroscopic and ultrastructural aspect of an intracranial thrombolysis-resistant clot

Susceptibility-weighted imaging MRI sequence shows a thrombus occluding the first segment of the right MCA (A, arrow). Analysis of the extracted thrombolysis-resistant clot (A, inset) by scanning electron microscopy (B) reveals a thick compact outer shell surrounding a loose erythrocyte-rich core.

A 57-year-old man presented with symptoms of right middle cerebral artery (MCA) stroke (NIH Stroke Scale score [NIHSS] 19) including eyes and head deviation, proportional left hemiplegia, left hemianopsia, and left hemispatial neglect. MRI showed occlusion of the first segment of the right MCA (figure). Thrombolysis was initiated 3.5 hours after onset. First angiographic acquisition 1.5 hours later showed persistent occlusion. Successful recanalization was obtained by aspiration thrombectomy 6 hours after onset.

Scanning electron microscopy analysis of the clot (figure) revealed a thick compact outer shell, which might participate in thrombolysis resistance. Despite the initial radio-clinical mismatch, NIHSS at 24 hours remained stable at 19.

Author contributions

Lucas Di Meglio: acquisition of data, analysis and interpretation of data. Jean Philippe Desilles: study concept, critical revision of manuscript for intellectual content. Mikael Mazighi: critical revision of manuscript for intellectual content, study supervision. Benoit Ho-Tin-Noé: study concept, critical revision of manuscript for intellectual content, analysis and interpretation of data.

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Disclosure

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