



Ipsilateral acute ischemic stroke in a patient with concomitant intracerebral hemorrhage successfully treated with mechanical thrombectomy

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Dear editor,

Intravenous thrombolysis (IVT) is the therapeutic reference for acute ischemic stroke (AIS) within the first 4.5 h of the ischemic event in patients without contraindications. Mechanical thrombectomy (MT) is recommended as an adjunct therapy to IVT in proximal occlusions of the internal carotid artery (ICA) or proximal middle cerebral artery (MCA) [1]. Primary MT has also shown to be safe for patients not suitable for IVT [2]. We report the case of a patient undergoing a direct MT since IVT was absolutely contraindicated because of ipsilateral concomitant ICH.

An 88-year-old woman was referred to our emergency department with sudden-onset left hemiparesis, hemianopia, and hypoesthesia (NIHSS score = 20). The patient had suffered from an ICH 7 days earlier. At the time of the ICH presentation, she was being treated with enoxaparin for an atrial fibrillation. No neurological sequelae were left from the hemorrhage (modified Rankin score = 0).

Non-contrast CT scan showed a subacute right temporal hematoma and a hyperdense right middle cerebral artery (Fig. 1a). Perfusion CT scan confirmed a favorable mismatch between cerebral blood volume and mean transit time (Fig. 1b, c). An occlusion of the M1 segment of the right MCA was detected on cerebral angiography (Fig. 1d). The patient underwent direct MT with direct

thrombus aspiration, achieving partial recanalization (TICI IIB) (time to recanalization 157 min) (Fig. 1e). Follow-up CT scan performed 24 h after MT revealed a hypodense lesion in the right lenticular nucleus and right temporal (Fig. 1f). The patient experienced progressive improvement of neurological symptoms, persisting mild dysarthria at the time of discharge 5 days later (NIHSS = 1, mRS = 1).

MT is safe in patients with large-vessel-occlusion stroke that have medical contraindications for IVT [2]. Intracranial bleeding is an absolute contraindication to IVT, but data on efficacy and safety of primary MT in patients with concomitant intracranial hemorrhage are scarce.

There have been some previous descriptions on nontraumatic convexal subarachnoid hemorrhage and concomitant AIS [3, 4], but little is said about the acute management of this exceptional combination. Forlivesi et al. [5] have recently reported a case of a 51-year-old woman with a right parietal and occipital ICH who experienced, 7 days later, an occlusion of the left MCA. Direct MT was performed, with complete recanalization and good clinical outcome.

In our case, both the ICH and the AIS occurred in the same vascular territory. This, in addition to the fact that the patient was female and her NIHSS score on admission was 20, could have resulted in higher risk of symptomatic ICH with MT, despite a high baseline ASPECT score.

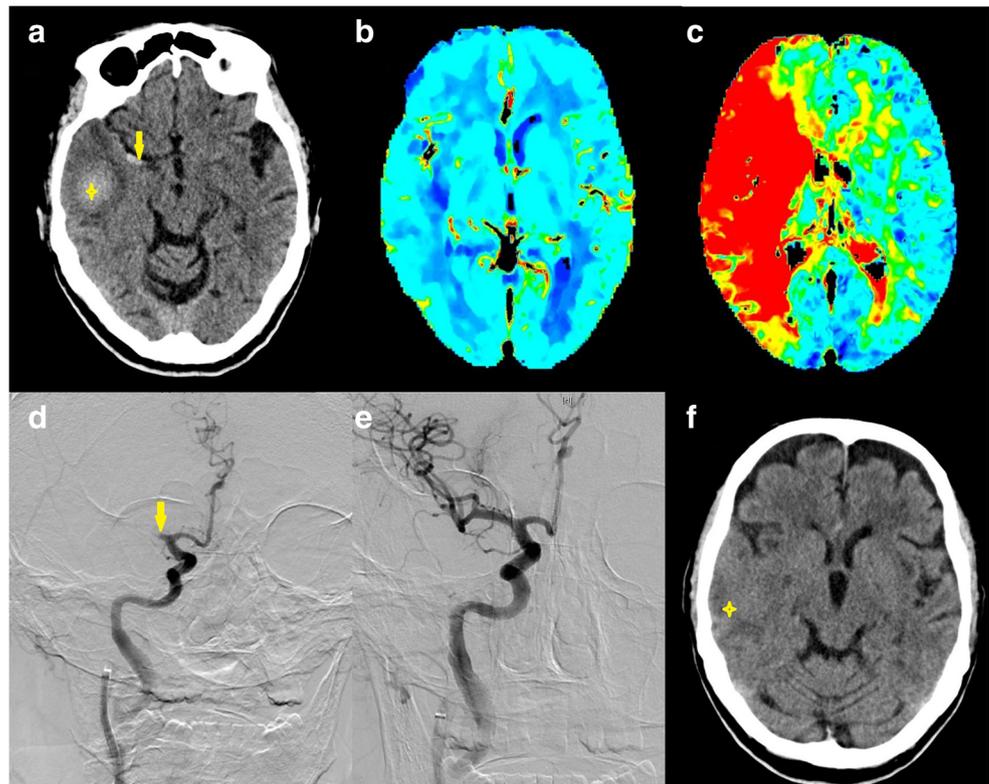
Our patient had been recently diagnosed with CAA, which is a known risk factor for bleeding in stroke. Given that the incidence of both atrial fibrillation and CAA increases with age [6, 7], our case suggests that MT could be a safe procedure in these exceptional, but presumably increasingly frequent, cases in which ICH and AIS occur concomitantly.

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Fig. 1 **a** Non-contrast CT: subacute right temporal hematoma (four-pointed star) and a hyperdense right middle cerebral artery (arrow). **b** Multiparametric CT scan: map of cerebral blood volume revealing low volume in the right insula. **c** Multiparametric CT scan: increased mean transit time in the territory of the right MCA. **d** Cerebral angiography: occlusion of the M1 segment of the right MCA (arrow). **e** Cerebral angiography: partial recanalization (TICI IIb) achieved in 1 pass. **f** Follow-up CT scan 24 h after MT: small infarction in the right lenticular nucleus and temporal lobe



Compliance with ethical standards

Conflict of interests The authors declare that they have no conflict of interest.

Informed consent The patient's informed consent has been obtained.

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