Acute ischemic stroke treatment in moyamoya syndrome

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Abstract

Introduction: Patients with moyamoya syndrome were excluded from many endovascular reperfusion therapy (EVT) trials due to their increased hemorrhagic risk. Hence, EVT is controversial and typically avoided in those patients.

Case report: A 36-year-old woman with moyamoya syndrome secondary to radiotherapy for a craniopharyngioma presented with confusion at waking up, after having been seen well the night before. Admission brain CT depicted a "dense vessel sign" in the left ICA terminus, prompting CT Angiography and CT Perfusion which revealed a left "carotid T" occlusion and an area of penumbra in the left MCA territory. The last MRI available, performed in out-patient clinic, showed narrowing and absence of flow in the distal right ICA but presence of flow in the left ICA and in the circle of Willis. Due to the unknown stroke onset time and NIHSS of 1, IV tPA was not considered. Despite her low NIHSS while lying down, her clinical status worsened with slight orthostatism to NIHSS of 6, due to dysarthria and right hemiparesis. Mechanical thrombectomy was considered after multidisciplinary discussion. Angiographic characterization revealed occlusion of the left ICA C7 segment with leptomeningeal and transdural collaterals via the other main vessels. A distal access catheter was then advanced to the occlusion site and direct aspiration was performed multiple times, without success. The patient was then admitted in the stroke unit and antiplatelet therapy was started. At discharge she presented an NIHSS of 4 and she’s being considered for surgical treatment.

Conclusion: This case highlights the controversy concerning the safety and effectiveness of EVT in moyamoya syndrome. To our knowledge, only one case of successful EVT in such patients was reported so far.