Reversible Cerebral Vasoconstriction Syndrome (RCVS) after epidural steroid injection: a case report

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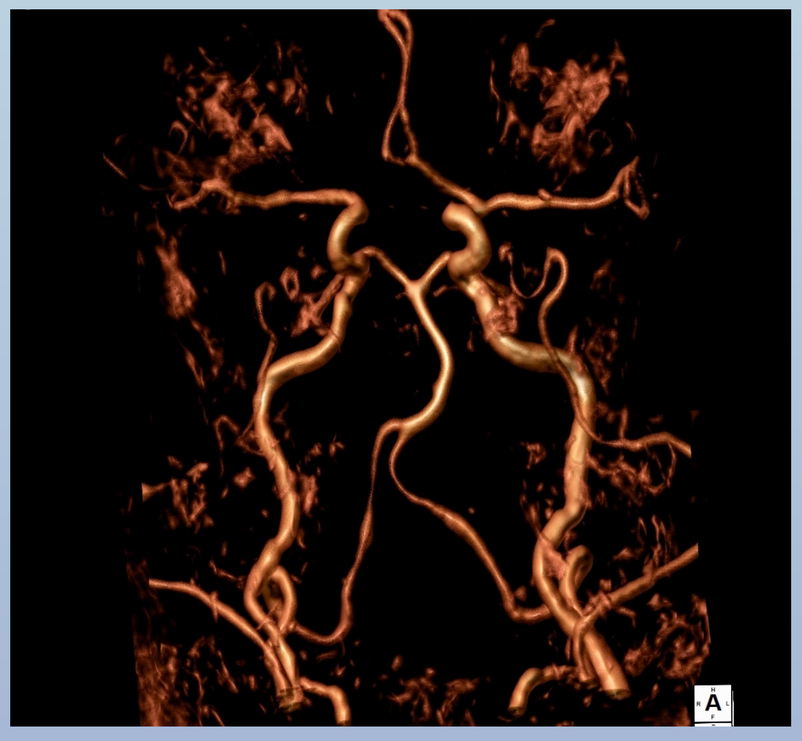
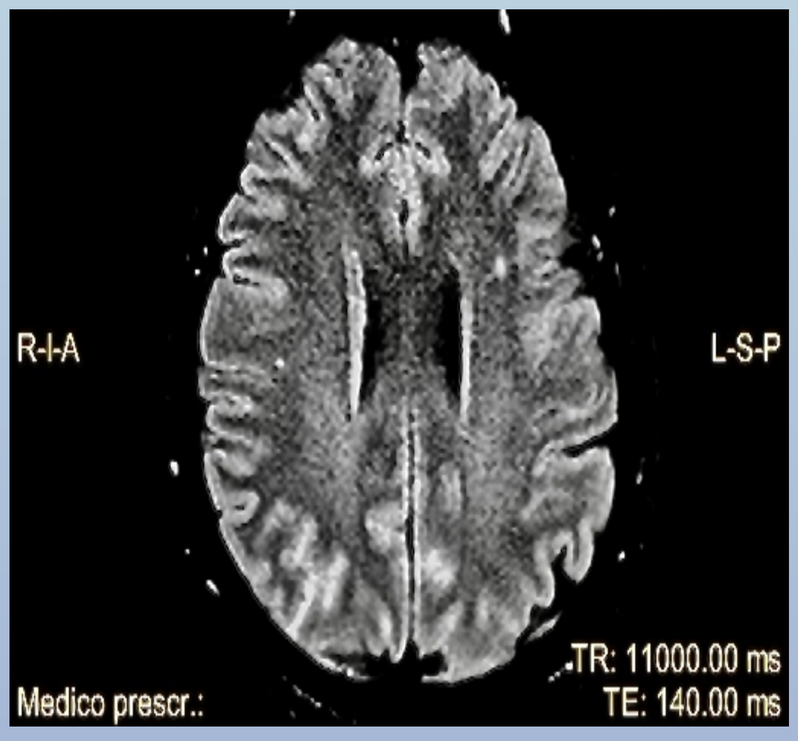


ANGIO-RM 3D snapshot



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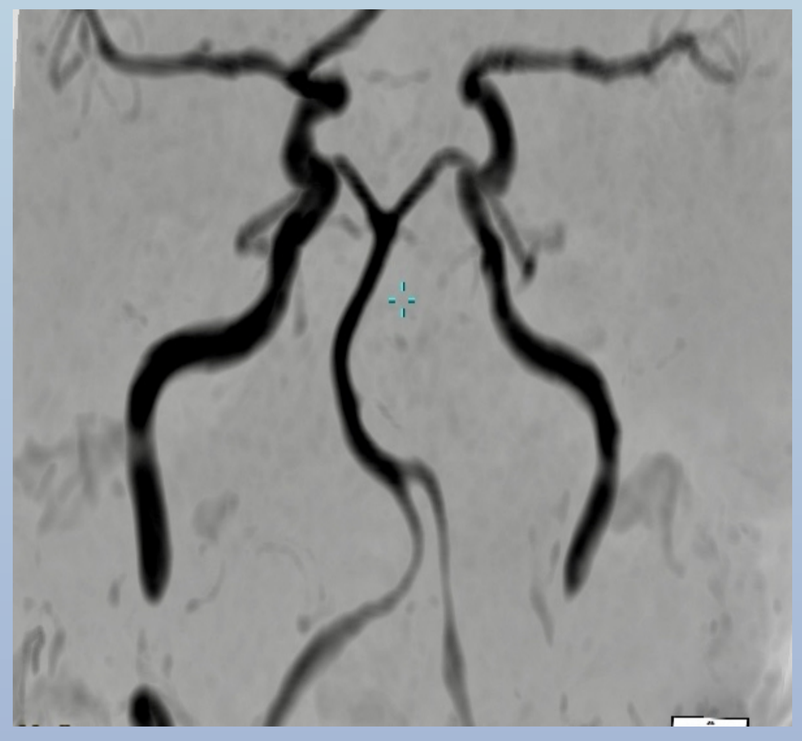

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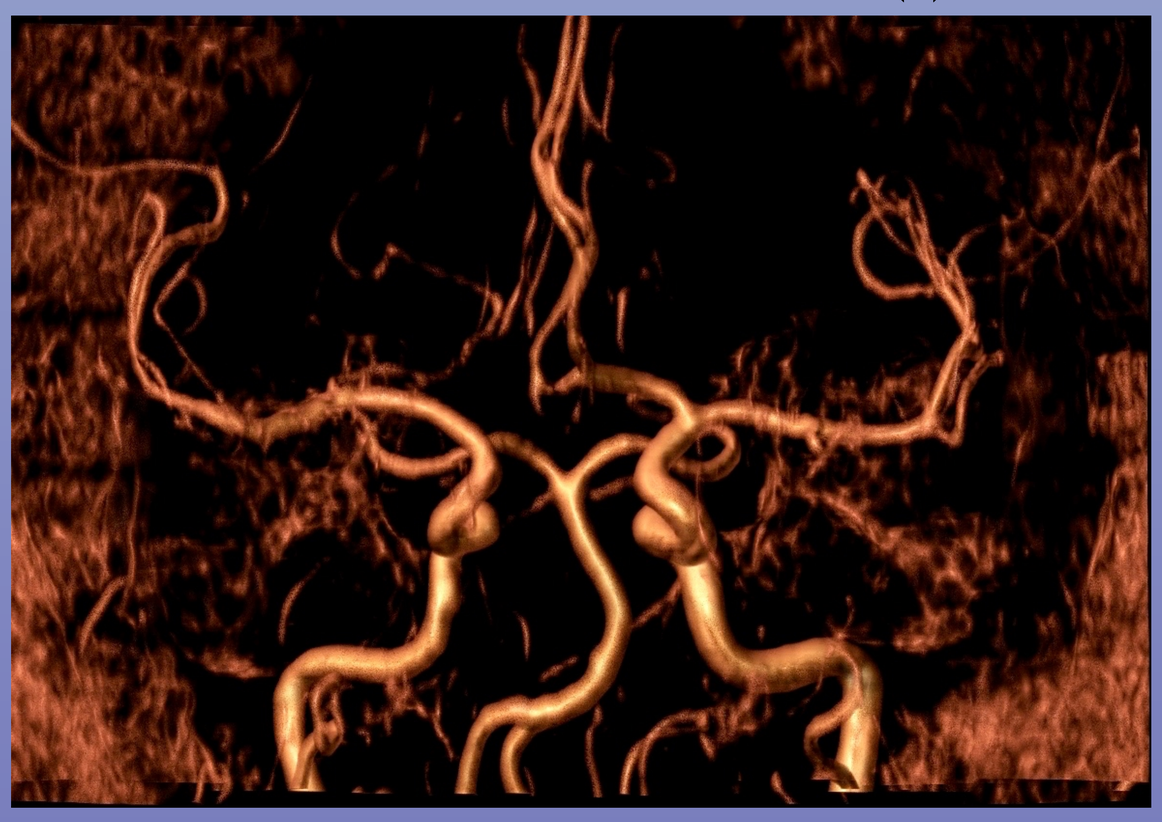
Background: Reversible Cerebral Vasoconstriction Syndrome (RCVS) is a clinical and radiological entity characterized by transient segmental cerebral arterial vasoconstriction that resolve spontaneously within 3 months. The clinical manifestations include recurrent thunderclap headaches and, less commonly, focal neurological deficits. Precipitating factors are identified in approximately 50% of cases (1). There are no previous description for epidural administration of steroids as RCVS trigger.

Case description: We report a case of a 58-year-old female admitted to our Neurology Department due to thunderclap headache developed one week after epidural injection of methylprednisolone acetate, given to relieve lower back pain caused by multiple lumbar slipped discs. Headache developed at the awakening, suddenly, with severe, frontal, bilateral and costrictive pain associated with photophobia, phonophobia, nausea and stomachache, that resolves spontaneously within 30 minutes. The day after occurred the same event, lasted in 45 minutes. Headache recurred again that night, with hot flush, flushing, sweating and faintness but not followed by consciusness loss and then the patient decided to went to the ER of our hospital. Brain CT, MRI and MR angiography showed cortical subarachnoid hemorrhage in bilateral temporo-parieto-occipital regions and segmentary vasoconstriction in V4 of both vertebral arteries and in P3 of right PCA suggestive of RCVS. Headache was treated with acetaminophene iv but unsuccessfully and then we set up a theraphy with opioids and antiemetics with pain relief in a few days. Transcranial Doppler performed two weeks after symptom onset revealed resolution of the vasospasm. CT scan before discharge documented the progressive reabsorption of the subarachnoid hemorrhage. A three months follow-up with MRI and MR angiography didn't report any sign of vasoconstriction on blood vessels.

Discussion: steroids are commonly administered as epidural therapy of herniated discs. In our case, we postulate that steroids, either alone or in combination with emotional stress from pain, triggered or exacerbated an underlying predisposition to RCVS. In fact, glucocorticoids may potentiate the effects of endogenous vasoconstrictors such as norepinephrine, angiotensin II and endothelin and have direct actions on vascular smooth muscle cell (2).



ANGIO-RM follow-up

Bibliografy:
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2. Ullian ME. The role of corticosteriods in the regulation of vascular tone. Cardiovasc Res 1999; 41:55-64.

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