Reversible Cerebral Vasoconstriction Syndrome with Delayed Cortical Subarachnoid Hemorrhage

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BACKGROUND

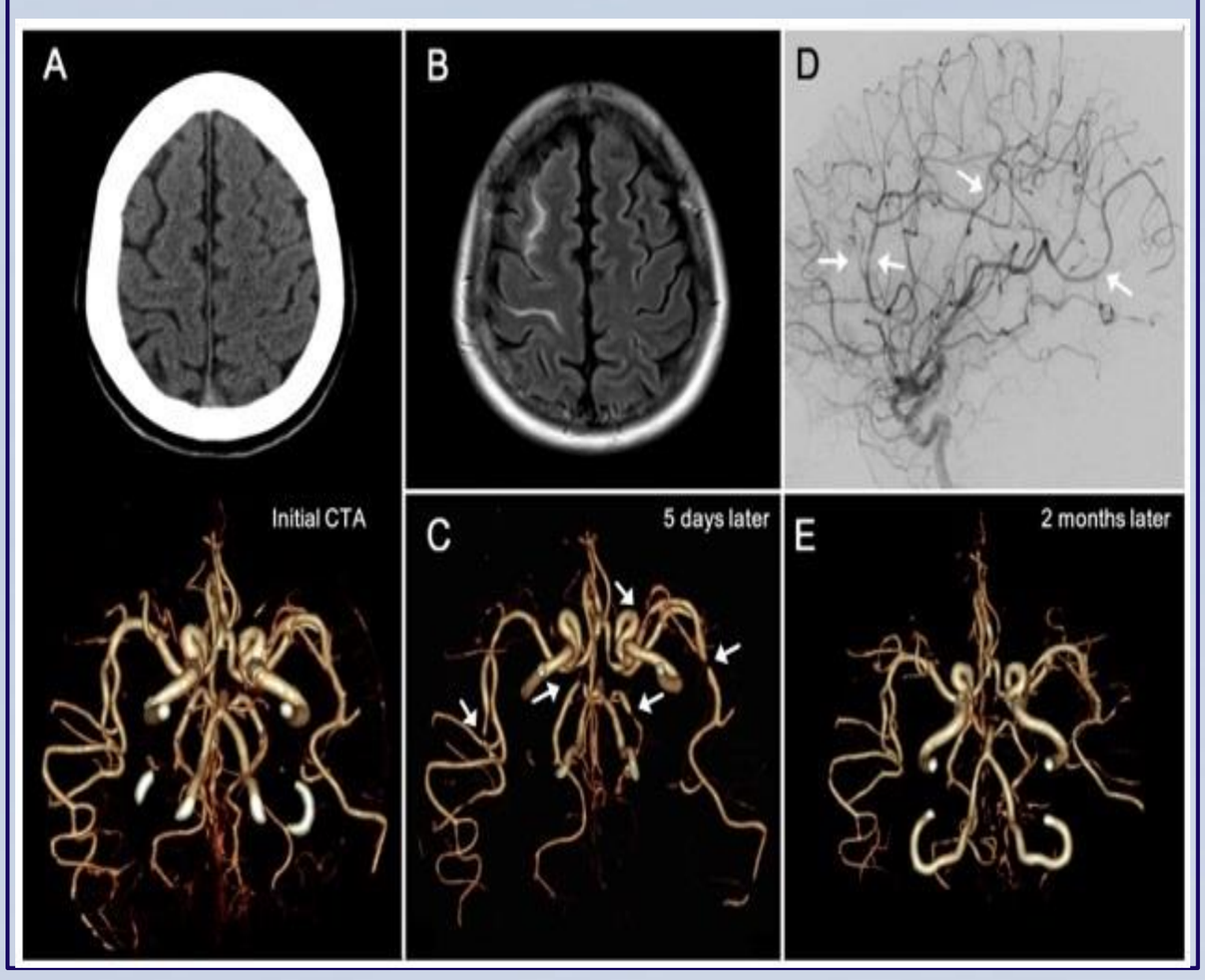
Reversible cerebral vasoconstriction syndrome (RCVS) is a rare disorder characterized by acute onset, severe headache, with reversible vasoconstriction of intracranial arteries often accompanied by additional neurological problems. Herein, we report on a case of RCVS with cortical subarachnoid hemorrhage (SAH) which wasn’ t observed on initial neuroimaging.

CASE

A 51-year-old, previously healthy woman visited emergency department of our hospital for severe thunderclap headache. Initial neurological examination, brain computed tomography (CT), and CT angiography of the brain were unremarkable (Figure A). After treatment with analgesic drugs (intravenous ketorolac 30 mg and oral acetaminophen 1000 mg), the headache was partially resolved. However, she experienced an additional episode of severe thunderclap headache 5 days later. Brain MRI, axial fluid-attenuated inversion recovery images, revealed a subarachnoid hemorrhage on right frontal lobe (Figure B). Follow-up CT angiography demonstrated multifocal segmental stenosis of the bilateral anterior, middle, and posterior cerebral arteries (Figure C). However, no aneurysms were documented. Conventional angiography revealed multifocal vasoconstrictions on intracranial arteries without cerebral aneurysms suggesting reversible cerebral vasoconstriction syndrome (Figure D).

CASE

After treatment with intravenous nimodipine therapy (1 mg/h for 7 days), the frequency and severity of thunderclap headaches decreased. Two months after first symptom onset, she remained free of headache and follow-up CT angiography showed normalized cerebral arteries (Figure E). Therefore, the patient was diagnosed with headache attributed to reversible cerebral vasoconstriction syndrome according to the International Classification of Headache Disorders, 3rd edition (beta version).[1]



CONCLUSIONS

We described the case of RCVS with cortical SAH which is not defined on initial CT. Therefore, it is necessary to consider reversible cerebral vasoconstriction syndrome and perform repeated angiographic study when a patient complains of severe thunderclap headache, even in the absence of abnormality on initial brain imaging.[2]

REFERENCES

1. Headache Classification Committee of the International Headache S. The International Classification of Headache Disorders, 3rd edition (beta version). *Cephalalgia* 2013;33:629-808.

2. Ducros A. Reversible cerebral vasoconstriction syndrome. *Lancet Neurol* 2012;11:906-917.

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