Hemorrhagic reversible cerebral vasoconstriction syndrome: a report on 2 cases

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Case 1: 51 year old woman with a ICH and a normal initial angiography

A 51 year old woman without known vascular risk factors presented severe headache and nausea of acute onset.

Three days later she noticed left visual loss. Neurological examination revealed a left homonymous hemianopia (NIHSS 2) and a right parietal hemorrhage was diagnosed on the CT scan.

Cerebral angiography on the **fifth day** after onset of symptoms was normal, however, a brain MRA revealed vasospasm in both anterior and posterior vascular territories.

On the **twelfth day**, the patient suffered neurological worsening with right hemiparesis and bilateral hemianopia due to left occipital acute infarct.

Cerebral angiography on the **thirteenth day** confirmed the presence of severe vasospasm affecting both MCA, ACA and V4 segments.

The patient was admitted to intensive care and treated with repeated intravascular nimodipine infusion with significant improvement of vessel caliber.

Neurological outcome was favorable **one month** after symptoms onset, with a NIHSS score of 3 at discharge due to a left homonymous hemianopia and a right leg monoparesis.

A control cerebral angiography two months later, revealed complete resolution of cerebral vasospasm.

a) CT scan showing right parietal hemorrhage. **b)** Angio-MRA showing diffuse vasospasm. **c)** Cerebral angiography on the 5th day was normal. Cerebral angiography on the 13th day confirms vasospasm in both MCAs (**d**) with significant improvement after nimodipine infusion (**e**).

Case 2: 47 year old woman with normal CT scan at onset

A 48 year-old woman with thunderclap headache presented normal examination and neuroimaging on admission.

Ten days later the patient experienced a left arm monoparesis, so a second CT scan was performed showing a right frontal hemorrhage. Direct cerebral angiography showed diffuse cerebral vasoconstriction and oral nimodipine was given with complete resolution of vasospasm in a control cerebral angiography one month later.

The NIHSS score at discharge was 0.

a) CT scan 10 days after symptoms onset shows a right parietal hemorrhage (initial CT scan was normal). **b)** and **c)** Direct cerebral angiography shows diffuse vasoconstriction.

Conclusion

The main **angiographic abnormalities** in RCVCS can appear **days to weeks** after onset of symptoms, so, in the presence of a high degree of clinical suspicion, normal neuroimaging doesn't exclude RCVCS and a follow-up study may be justified.