



# AB148. SOH22ABS108. Cerebral hyperperfusion syndrome: a case report of a rare but devastating entity

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**Background:** Carotid artery stenting or carotid endarterectomy are common methods of treating carotid artery stenosis (CAS). Long-standing CAS is thought to lead to disruption of cerebral auto-regulation. In some patients, sudden restoration of blood flow causes cerebral hyperperfusion syndrome (CHS). Untreated, this can lead to intracerebral haemorrhage and death. If treated early, complete recovery occurs in the majority of cases. Early recognition can prevent these life-threatening complications.

**Methods:** We discuss the case of a 73-year-old female admitted for investigation of transient ischaemic attacks. She endorsed a past medical history of hypertension. Examination was normal. A CT angiogram (CTA) demonstrated 90% stenosis of the left internal carotid artery (ICA) and 80% on the right. A magnetic resonance imaging (MRI) brain demonstrated small vessel ischaemia bilaterally. Other investigations were unremarkable.

**Results:** The patient underwent an uncomplicated left carotid endarterectomy. Post-operatively, her bloods pressure was persistently elevated and refractory to oral medications. 9 days post-operatively, she developed aphasia, right arm mono-paresis and focal seizures. An urgent MRI brain showed acute cerebral ischaemia due to extensive cerebral oedema. CHS renal showed fibromuscular dysplasia of the right renal artery. Once stable, the patient underwent right renal artery stenting with subsequent normalisation of blood pressure. However, the patient required a long course

of rehabilitation to return to baseline function.

**Conclusions:** Although CHS is a rare complication, the consequences of delayed diagnosis can have devastating, long-lasting consequences, with mortality of up to 50%. Identifying patients at risk for CHS is important to ensure close post-operative monitoring and tight control of blood pressure.

**Keywords:** Carotid artery stenosis (CAS); carotid artery stenting; carotid endarterectomy; hyperperfusion syndrome; reperfusion

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## Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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