

Acute concurrent bilateral internal carotid artery occlusion: a teaching clinical image

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ABSTRACT

Acute bilateral internal carotid artery (ICA) occlusion is a rare stroke syndrome presenting with acute coma, and patients usually have preserved brainstem function on initial examination. In this clinical image, we report a case of acute concurrent bilateral ICA occlusion. Acute bilateral ICA occlusion is an unusual entity with a poor outcome. It can mimic metabolic encephalopathies and posterior circulation infarcts and can be differentiated by careful evaluation of brainstem functions.

Keywords: Coma, bilateral carotid artery occlusion, stroke

INTRODUCTION

Acute bilateral internal carotid artery (ICA) occlusion is a rare stroke syndrome presenting with acute coma, and patients usually have preserved brainstem function on initial examination.^{1,2} In this clinical image, we report a case of acute concurrent bilateral ICA occlusion.

CLINICAL IMAGE

A 77-year-old male patient with a past medical history of uncontrolled hypertension, previous ischemic stroke, and no ICA agenesis or occlusion was detected in previous examinations, was admitted to the emergency department with sudden onset coma. His last known well time was 16 hours before the admission. The neurological examination of patient at the emergency department showed minimal

motor extension response to central pain, Decorticated postur, bilateral Babinski sign, and intact brainstem reflexes. The patient was electively intubated before admission due to vomiting-related aspiration. Electrocardiography (ECG) showed atrial fibrillation. Brain computer tomography (CT) scan revealed bilateral hyperdense middle cerebral arteries (A). Subsequently planned CT angiography demonstrated bilateral internal carotid artery (ICA) occlusion (B) and brain magnetic resonance diffusion-weighted imaging (DWI) and apparent diffusion coefficient (ADC) map showed an area of diffusion restriction in the bilateral ICA territory (C and D). Due to the delayed admission, neither endovascular thrombectomy nor thrombolytic treatment could be planned and the patient was transferred to the intensive care unit for palliative monitoring.

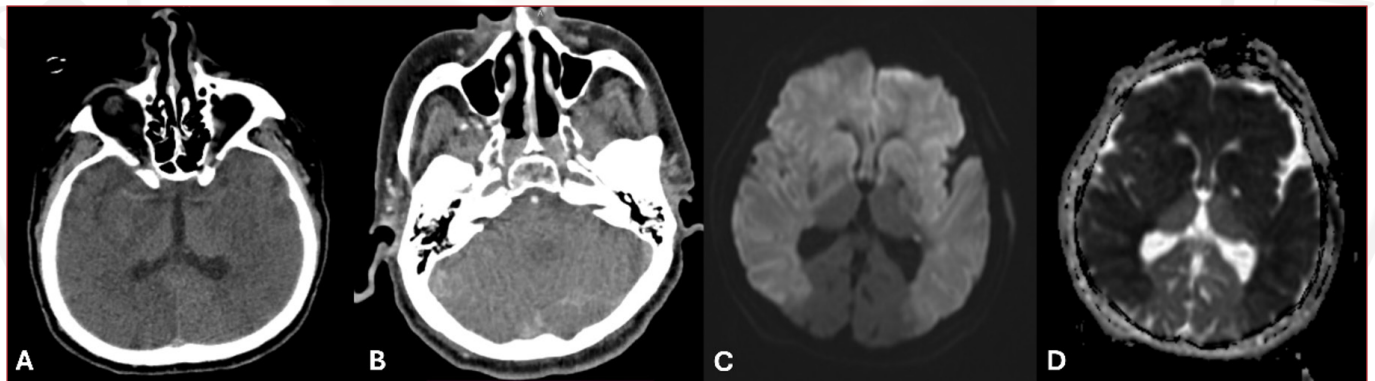


Figure. Bilateral hyperdense middle cerebral arteries were shown in brain computer tomography scan (A). Brain computer tomography angiography demonstrated bilateral internal carotid artery occlusion (B). Brain magnetic resonance diffusion-weighted imaging (C) and apparent diffusion coefficient map (D) showed an area of diffusion restriction in the bilateral ICA water supply.

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DISCUSSION

Acute bilateral ICA occlusion is an unusual entity with a poor outcome.³ It can mimic metabolic encephalopathies and posterior circulation infarcts and can be differentiated by careful evaluation of brainstem functions.⁴ For this purpose, imaging methods are very helpful in supporting the diagnosis. As in our case, clinical imaging and detailed neurological examination are of great importance in making a differential diagnosis and managing the process.

CONCLUSION

Bilateral simultaneous ICA occlusions are rare. We think that acute bilateral ICA occlusions can be detected with a detailed anamnesis, medical history and clinical imaging.

ETHICAL DECLARATIONS

Informed Consent

All patients signed and free and informed consent form.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors declared no conflicts of interest with respect to the authorship and/or publication of this article.

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Author Contributions

All of the authors declare that they have all participated in the design, execution and analysis of the paper and that they have approved the final version.

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