

Global Cerebral Infarction After In-hospital Cardiac Arrest

Clinical Image

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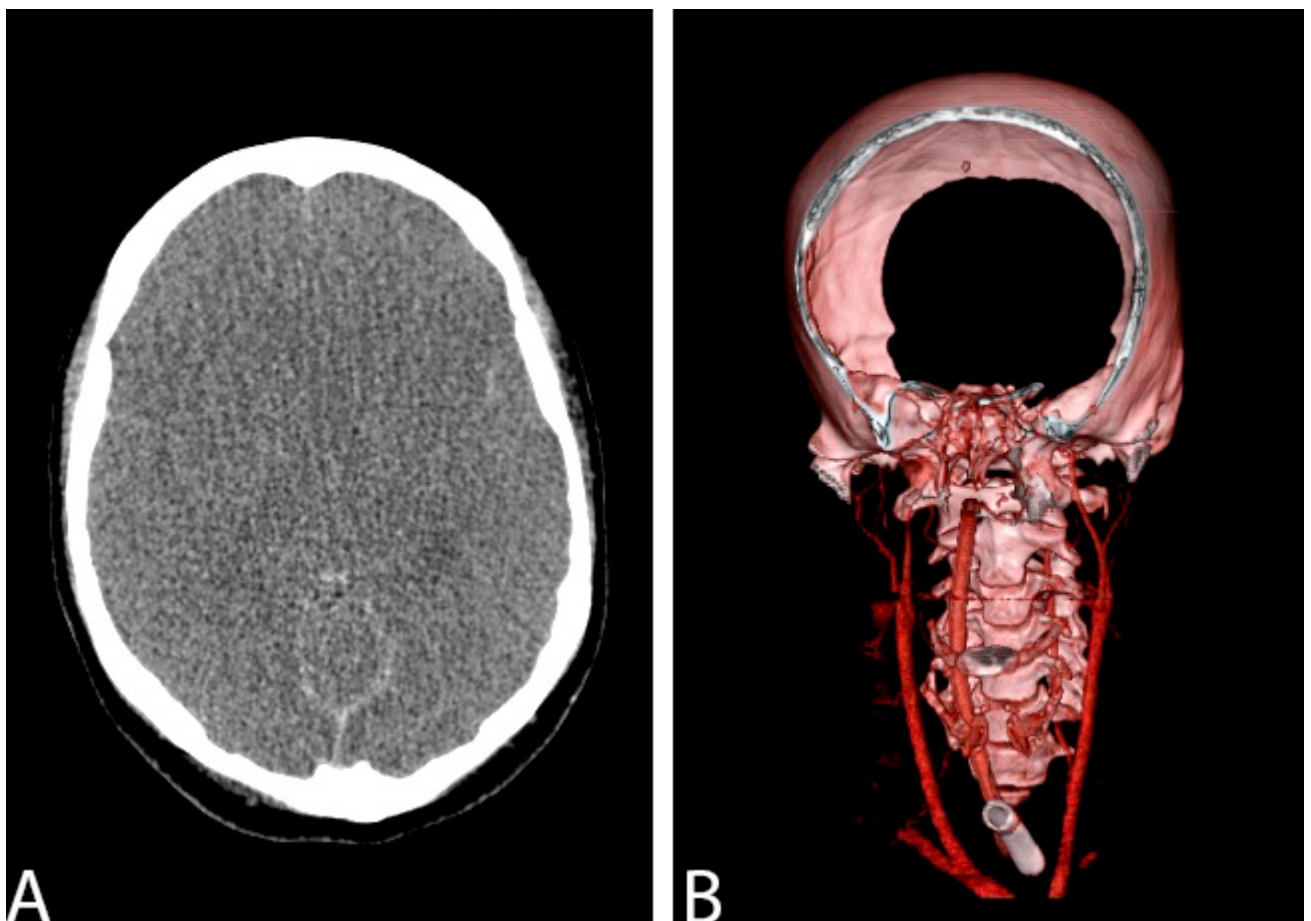


Figure 1: Panel A: CT showing diffuse cerebral edema, loss of gray-white differentiation, and obliteration of both lateral ventricles. **Panel B:** CT angiography shows the absence of intracranial flow.

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A 30-year-old female patient with a history of thyrotoxicosis underwent elective thyroidectomy at an outside hospital. After the procedure, she experienced a prolonged episode of cardiac arrest, requiring two cycles of cardiopulmonary resuscitation (CPR).

She was transferred to our hospital and admitted to the intensive care unit for monitoring. Neurological examination revealed loss of brainstem reflexes (pupillary, corneal, oculovestibular, gag, and cough reflexes) with a Full Outline of Unresponsiveness (FOUR) score of zero. Head computerized tomography (CT) revealed severe cerebral edema with diffuse loss of gray-white differentiation and no intracranial flow on CT-angiography (Figure 1).

We confirmed a diagnosis of brain death seven days after cardiac arrest. Global hypoxic-ischemic injury, also known as hypoxic-ischemic encephalopathy, is a catastrophic intracranial event with often devastating neurological injury. Treatment options include neurointensive monitoring and treating increased intracranial pressure.

Cerebral hypoxia leads to significant cellular dysfunction due to the high demand for oxygen needed for brain

metabolism. Early diagnosis and treatment are essential to avoid complications and improve outcomes in a catastrophic event.^{?,?.?} Brain damage can occur after 5 minutes of cardiac arrest if CPR is not initiated.

We suggest this condition be considered part of the spectrum of ischemic stroke as an example of global cerebral infarction.

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