

# Carotid Angiography and Coincidental Subarachnoid Hemorrhage Associated with Cerebral Salt Wasting: Letter to the Editor

## Karotis Anjiyografi Sonrası Gelişen Subaraknoid Kanama ve Serebral Tuz Kaybettirici Sendrom

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Intracerebral hemorrhage is well known but a rare complication following carotid endarterectomy (CEA). The incidence of this complication was reported as 0.41%.<sup>1</sup> Sundt et al. first reported a case with this complication and they suggested that its etiology was a normal perfusion pressure breakthrough phenomenon.<sup>2</sup> Otherwise hyperperfusion syndrome after percutaneous transluminal angioplasty (PTA) for carotid stenosis has been reported in few papers recently.<sup>3</sup> In patients with severe central nervous system diseases, life-threatening hyponatremia results from two main causes: the syndromes of inappropriate secretion of antidiuretic hormone (SIADH) and cerebral salt wasting (CSW). CSW syndrome described in patients with brain tumours, traumas, intracranial hemorrhage, ischemic strokes and CNS infections.<sup>4,5</sup> Here we present a case of carotid angiography and coincidental subarachnoid hemorrhage (SAH) associated with CSW.

72-year-old male with a history of hypertension also experienced transient ischemic attacks in the last few months was admitted to the Baskent University İstanbul Research and Training Hospital for diagnostic imaging of carotid arteries. He was on medication with antihypertensive drugs. His digital subtracting angiography (DSA) of carotid arteries demonstrated total occlusion on left internal carotid artery (ICA) and 60% stenosis on right ICA. After the procedure he had headache, nausea and vomiting and suddenly lost his consciousness. On his physical examination, glasgow coma scale (GCS) <7, NIBP: 200/100 mmHg, heart rate (HR): 90/min, SPO<sub>2</sub>: 90% in the room air than he was intubated and transported to intensive care unit (ICU). His computed tomography (CT) scan of the brain revealed diffuse SAH in the posterior fossa. He was initiated steroids and calcium channel blockers to relieve edema and to prevent vasospasm of brain. After 24 hours his GCS was 12 and he developed quadriparesis, stable haemodynamically than extubated and discharged from ICU. After one week of admission to regular service the patient developed pneumonia and respiratory insufficiency than he was intubated and moved to ICU and initiated

### Key Words:

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### Anahtar Kelimeler:

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mechanical ventilation. His laboratory tests revealed markers of infection in blood stream and serum hyponatremia (122 mmol/l, normal range 130-144 mmol/l), hypochloremia (90 mmol/l, normal 95-110 mmol/l), serum hypoosmolality (263 mmol/kg, normal 275-300 mmol/kg) urine hypoosmolality (289 mmol/l, normal 300-900 mmol/l) and marked polyuria (9000 mL/day) with normal serum levels of urea, creatinine, potassium, glucose, calcium and antidiuretic hormone (ADH). Urinalysis showed low specific density of the urine (1005) and extreme wasting of Na<sup>+</sup> (168 mmol/l, normal 50-150 mmol/l). Overall fluid balance was negative, his central venous pressures were <6 cm H<sub>2</sub>O, but he was haemodynamically stable. He was

diagnosed as CSW. He was initiated antibiotics and isotonic crystalloids and serum salt replacement therapy. He became well after 2 weeks of treatment and he was extubated and discharged from the ICU.

Carotid angiography is an imaging technique for arteries which shows blood supply to brain. It is necessary to be careful during the diagnostic procedures that causes unexpected complications like SAH associated with cerebral salt wasting. Therefore we should observe the patients for post-operative headache and the elevation of the arterial blood pressure. We suggest that precautions must be taken before the procedure that may lead lifethreatening sequelae.

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