Abstract

Objective: To report the first case of reversible cerebral vasoconstriction syndrome (RCVS) diagnosed when reversible cardiac wall motion akinesia was observed after the administration of atropine in a 28-year-old lady presenting 4 weeks post-partum with a 2-week history of thunderclap headache.

Case presentation: We present a case of a 28-year-old lady, who presented to the American University of Beirut Medical Center, with a history of migraine with visual auras and peri-partum pituitary hyperplasia, presenting 4 weeks postpartum with a 2-week history of thunderclap headache.

Results: RCVS comprises a group of diseases characterized by reversible focal segmental narrowing of cerebral vessels, usually accompanied by thunderclap headache and sometimes focal neurological deficits.

Conclusion: Several case reports and case series have described the association of this disorder with vascular manifestations outside the cerebral vasculature, including dissection of both external and internal branches of the carotid arteries, unruptured saccular berry aneurysms and fibromuscular dysplasia of the extracranial internal carotid artery (ICA). In this short report we describe a patient with reversible cerebral vasoconstriction associated with reversible cardiac wall abnormalities.

Keywords: Stroke; Vasospasm; Intracranial; Seizures; Coronary vasospasm; Post-partum period

Abbreviations: DSA: Digital Subtraction Angiography; CAT: Computed Axial Tomography; MRI: Magnetic Resonance Imaging; MRA: Magnetic Resonance Angiography; ADC: Apparent Diffusion Coefficient; WMA: Wall Motion Abnormality; FLAIR: Fluid Attenuated Inversion Recovery; TEE: Trans-Esophageal Echocardiogram

Introduction

Reversible cerebral vasoconstriction syndrome (RCVS) comprises a group of diseases characterized by reversible focal segmental narrowing of cerebral vessels, usually accompanied by a thunderclap headache and occasional focal neurological deficits [1]. Several case reports and case series have described the association of this disorder with vascular manifestations outside the cerebral vasculature including dissection of both external and internal branches of the carotid arteries, unruptured saccular berry aneurysms, and fibromuscular dysplasia of the extracranial internal carotid artery (ICA) [2-4]. A case series published in 2014 described reversible cardiac Wall motion abnormalities (WMAs) and hypokinesia in 3 women with RCVS, 2 of whom were post-partum [3].

Case Presentation

We present a case of a 28-year-old lady, who presented to the American University of Beirut Medical Center, with a history of migraine with visual auras and peri-partum pituitary hyperplasia, presenting 4 weeks postpartum with a 2-week history of thunderclap headache. The patient's headache started acutely in maximal intensity postpartum lady associated with reversible coronary vasospasm.
pattern of occurrence of events, which progressed from hemorrhage in the first week to ischemia in the second week, suggests a centripetal progression of pathology within the cerebral arteries [6]. On clinical follow up 1 month later, the patient was completely symptom free.

Conclusion

Wall motion abnormalities have been previously observed in association with reversible cerebral vasoconstriction, but to our knowledge this is the first reported case of reversible wall motion akinesia following the administration of atropine. More studies on the pathophysiology of this rare disease and its association with extracranial vascular manifestations are needed, especially in the coronary vasculature which poses a serious concern in these patients.

References