

Neuropsychiatric Manifestations of Arteriovenous Malformation: A Case of Acute Mania

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Abstract:

Introduction: Organic mania is a well-described phenomenon that can be attributed to a variety of causes. In patients with acute mania, organic causes must be considered especially when they present atypically, such as a lack of previous psychiatric history or presentation above the age of 40. Mania has been thoroughly researched, with lesions causing mania found to affect regions of the brain that regulate functional control of sleep, appetite, energy, and libido. There are various neurologic, toxic, and metabolic causes that have been associated with disrupting locations that normally play a vital role in maintaining neurological and psychological homeostasis. However, there is only scattered evidence of mania arising secondary to vascular lesions, and more specifically from patients with arteriovenous malformation (AVM). We report on a case of acute mania in a patient with an AVM and no prior reported psychiatric history.

Case Presentation: The patient is a 46-year-old male with a history of a left AVM post-radiation treatment. He was also diagnosed with major depressive disorder and seizure disorder approximately a year before his AVM diagnosis. The patient was brought in by police to the emergency department of a local hospital due to a report of domestic disturbance at his residence. He presented with manic symptoms, including mood lability, impulsivity, insomnia, decreased appetite, jealous delusions, pressured speech, and suicidal ideations. In the ED, the patient's Escitalopram dose was reduced from 20 mg to 10 mg, and Divalproex was started. After a three-day hospital admission, his psychiatric symptoms improved. He was subsequently discharged home with an additional instruction to follow up with his neurologist.

Discussion: In this report, we emphasize the importance of distinguishing between primary psychiatric conditions and those secondary to medical conditions as this can greatly dictate the acute care patients receive and can make a difference in their psychiatric and medical prognosis. In addition, we discuss the pathophysiology and treatments available for AVM's, where this presents an opportunity for further research into long-term effects and patient prognosis.

Keywords: Arteriovenous Malformation, Acute Mania, Neuropsychiatric Manifestations