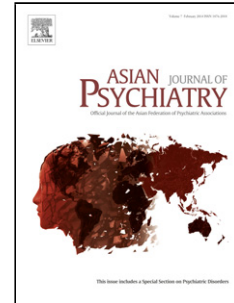


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Author: Vijaya Raghavan Dhandapani

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## Organic mania secondary to left arteriovenous malformation

### 1. List of authors and affiliations – One author

Vijaya Raghavan Dhandapani  
Consultant Psychiatrist  
Schizophrenia Research Foundation  
R/7A, North Main Road,  
Anna Nagar West Extension,  
Chennai, Tamil Nadu – 600101  
India  
Phone: +91 9043705687  
E-mail: drvijayaraghavand@gmail.com

### 2. Caption for Fig.1

A MDCT with cerebral angiogram showing 3 x 2.6 cm AVM in the left thalamus and posterior ganglio capsular region with feeding artery from left posterior cerebral artery.

### My contact details:

Vijaya Raghavan Dhandapani  
Consultant Psychiatrist  
Schizophrenia Research Foundation  
R/7A, North Main Road,  
Anna Nagar West Extension,  
Chennai, Tamil Nadu – 600101  
India  
Phone: +91 9043705687  
E-mail: drvijayaraghavand@gmail.com

Sir,

The concept of secondary mania was first given by Krauthammer and Klerman in 1978 (Krauthammer and Klerman 1978). Mania usually occurs as a phase of maniac-depressive disorder but it can also occur in association with organic conditions in patients with no history of mood disorders. Organic mania has many secondary causes such as neurologic, toxic and metabolic disorders (Larson and Richelson 1988). In a prospective study by Das *et al.*, it was found that 4.67% of all individuals with mania had a secondary cause (Das and Khanna 1993). However, vascular malformations as a secondary cause for organic mania is not common. Literature review shows only few case reports of right arteriovenous malformations (AVM) causing organic mania (MPsychMed *et al.* 2011; Mohapatra, Deo, and Rath 2015). Here, a case report of organic mania with left massive AVM is presented.

A 24-year old male presented with the complaints of decreased need for sleep, irritability, excessive boastful talking, overfamiliarity, grandiosity and excessive indiscriminate spending for five weeks. Along with this, he also complained of severe headache on and off. No history of similar episodes or any other psychiatric history in past. Family history is nil for psychiatric illnesses. No history of substance use. On examination, his vitals were stable. He was oriented and alert. His neurological examination was within normal limits and there were no deficits in motor and sensory system. On mental status examination, he had pressure of speech and delusion of grandiosity. He was diagnosed to be having mania with psychotic symptoms, according to ICD-10.

He was evaluated for his severe headache. A plain computed tomography (CT) brain showed a large strongly enhancing heterogeneous lesion involving the most of the left thalamus. The patient was further investigated by multi detector computed tomography (MDCT) with cerebral angiogram. He was diagnosed to have a 3 x 2.6cm arteriovenous malformation

(AVM) of the left thalamus and posterior ganglio capsular region with feeding artery from left posterior cerebral artery (Fig.1).

His diagnosis was revised to organic mood disorder (left cerebral AVM with secondary mania). He was treated with sodium valproate 1000 mg and risperidone 4 mg. Neurosurgical opinion was obtained and was advised to manage the patient conservatively as AVM was extensive involving major portion of left cerebrum. After the start of medications, his symptoms reduced significantly in three weeks. By the end of 12 weeks, antipsychotic medication, Risperidone, was slowly tapered off and stopped and he was maintained on sodium valproate to prevent relapse.

Most of the AVM are congenital in origin but they can present at later age (Stein and Wolpert 1980). Previous case reports detailed right sided AVM causing organic mania which support the role of right hemisphere in secondary mania (Mohapatra, Deo, and Rath 2015; Cummings 1997; Gross and Herridge 1988). Contrary to the previous case reports where mania is associated with right AVM, in this case report, mania is associated with a left sided AVM. This could be due to massive size of left sided AVM that might have a possible effect on right hemisphere. This case report highlights the importance of considering organic causes in patients with mania who presents with odd features like late age of onset, associated headaches, sustained irritability, no substance use and no family and past psychiatric history. Manic symptoms might be prominent during the presentation and might mask the underlying neurologic or other causes. High degree of suspicion is needed when dealing with mania presenting with atypical clinical features. Prompt identification would lead to early intervention of organic cause and better outcome.

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