

# Dementia due to arteriovenous fistula and cured by endovascular treatment: a case report

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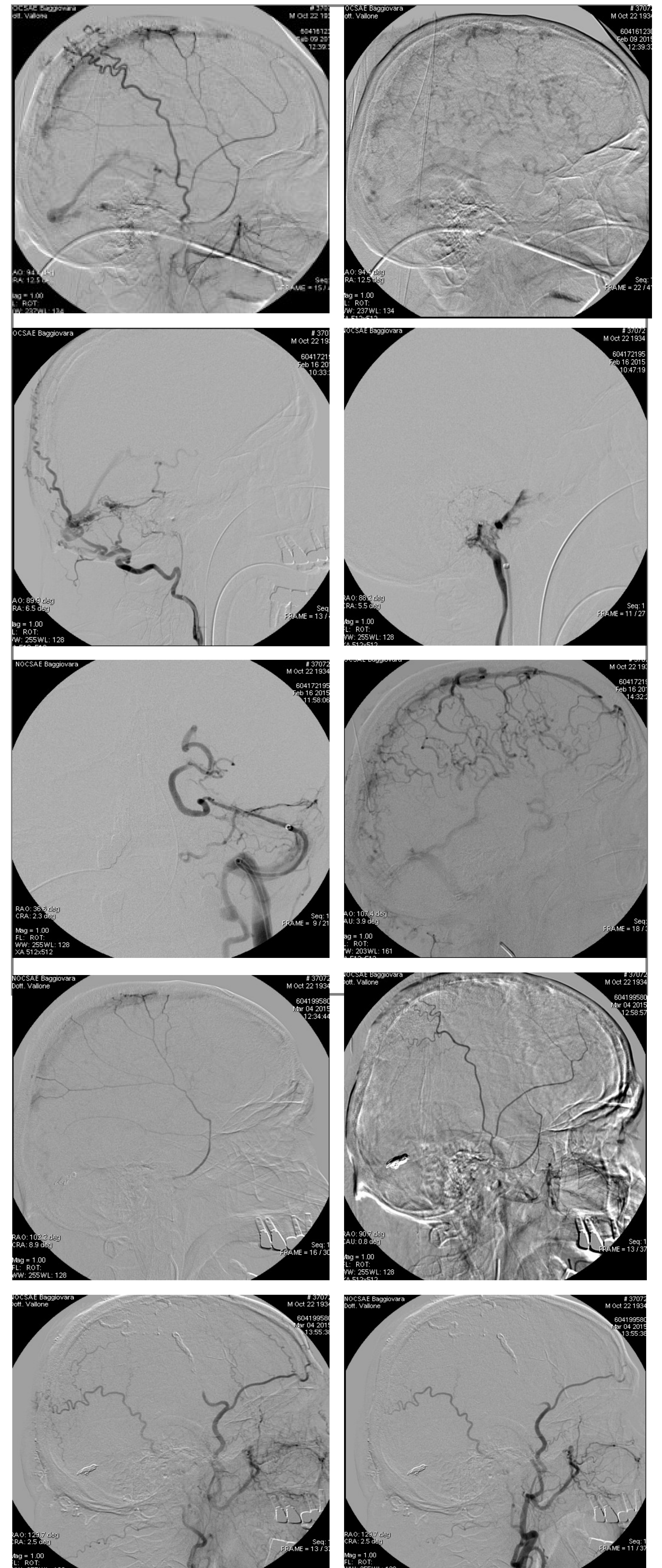
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**Background and objective:** Dural arteriovenous fistulas (DAVFs) are acquired malformations in most of the case due to cerebral venous thrombosis and frequently misdiagnosed also because of unspecific symptoms. Anecdotally patients with DAVFs and rapid cognitive impairment have been described (1, 2). Here we report a case of a patient with dementia and dizziness due to DAVFs and cured by endovascular treatments of embolization.

**Case report:** A 81-year-old man suffered for 4 month from tinnitus, dizziness, progressive and severe gait disturbance and disorientation was preferire to our Stroke Unit after brain MRI. The first neurologist recommended neuroimaging suspecting posterior cerebrovascular insufficiency. A brain MRI revealed that symptoms were likely due to multiple DAVFs with retrograde drainage into cortical veins, related to thrombosis of the superior sagittal sinus and both transverse sinuses; in addition dilated deep collateral veins and mild ventriculomegaly. Electroencephalography showed unspecific slowing in posterior regions with some irritative elements. Transcranial color doppler (TCCD) revealed high and reversed blood flow in Rosenthal veins and the engorgement of deep cerebral venous system. Neuropsychological test was not executable at baseline with the exception of Mini Mental State Examination (MMSE): 4/30. Modified Rankin Scale (mRS) was 5.

An angiography provided a definitive diagnosis of dural transverse and superior sagittal sinuses fistulas; Transvenous embolization by glu (Glubran 2) occluded most of the fistula in two times. Cognitive and neurological symptoms dramatically improved after embolization. Three month follow up showed a neurological examination substantially negative including walking disturbances. MMSE was 28/30; mRS 2. In addition to angio CT also TCCD showed a drastic improvement in cerebral venous blood flow, especially in Rosenthal and Galeno veins, that resulted orthodromic immediately after the first treatment.

**Discussion and conclusion:** DAVFs is frequently misdiagnosed in our daily clinical practice and should be considered as a cause of vascular dementia potentially reversible by endovascular treatment.



**1-A Case of Curable Dementia Treated by Effective Endovascular Embolization for Dural Arteriovenous Fistula.** Tomoyuki Yoshiharaa Ryuzaburo Kanazawaa Shinichiro Maeshimab Aiko Osawac Ikuo Ochiaid Nahoko Uemiyae Shinya Kohyamae Fumitaka Yamane Shochiro Ishiharae. *Case Rep Neurol* 2014;6:116–121.  
**2-Dural arteriovenous fistulas presenting with reversible dementia are associated with a specific venous drainage.** Labeyrie MA<sup>1</sup>, Lenck S, Saint-Maurice JP, Bresson D, Houdart E. *Eur J Neurol*. 2014 Mar;21(3):545-7. doi: 10.1111/ene.12300. Epub 2013 Nov 7.