

# A case of non-fluent aphasia as presenting feature of brain arteriovenous malformation.

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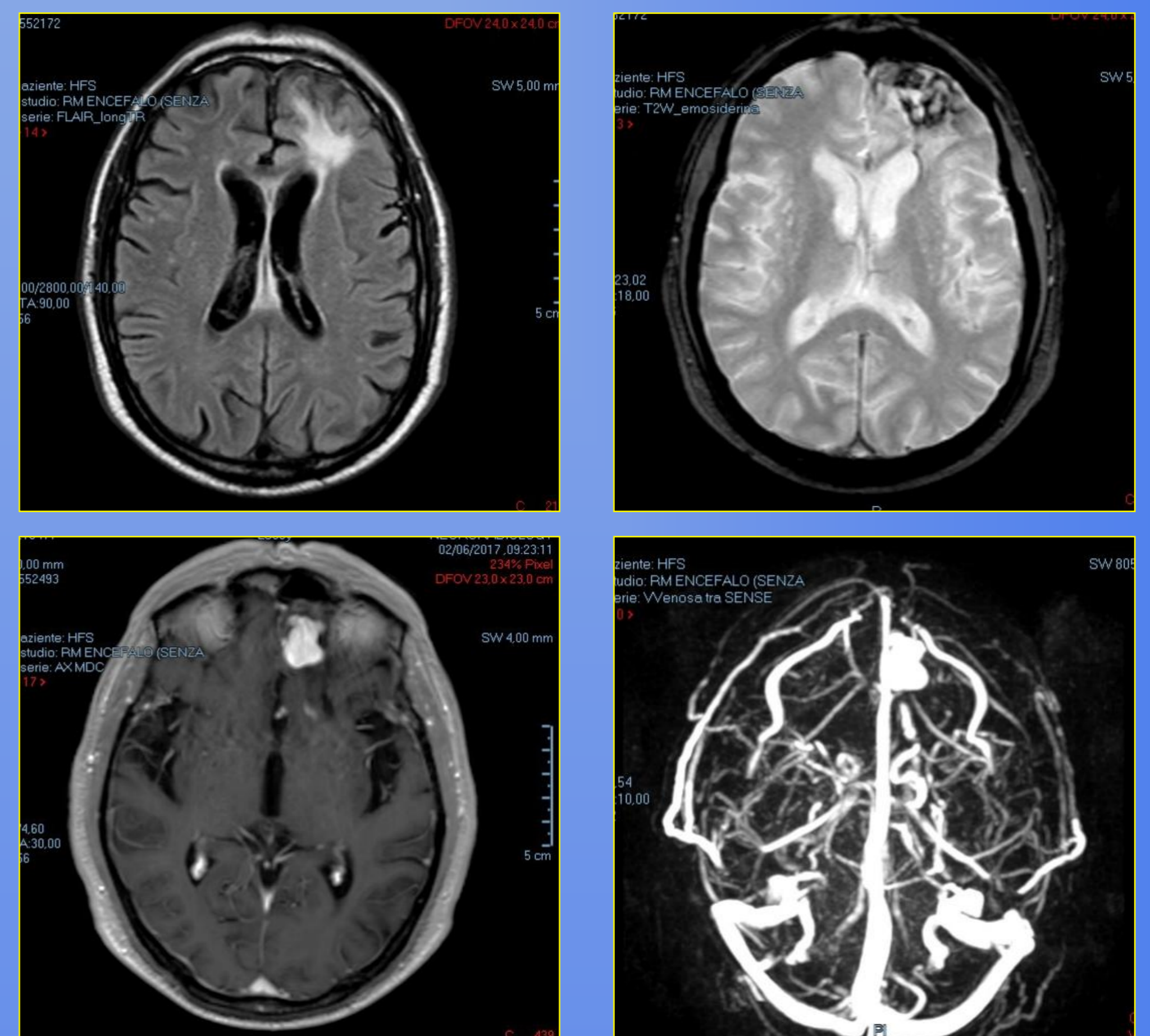
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## Background

Aphasia is a disorder of language secondary to brain damage, common in middle-aged and old subjects. Fluent aphasias are impairments related to the reception of language, with difficulties either in auditory comprehension or in repetition. Non-fluent aphasias are characterised by effortful and non-fluent speech, but with relatively good auditory comprehension. Typical causes of aphasia are cerebrovascular accidents, traumas, brain tumours, degenerative processes or infections. This condition can be caused also by gradual degeneration of brain cells located in language networks (Primary progressive aphasia). Moreover temporary episodes of aphasia, caused by migraines, seizures or transient ischemic attacks, can occur. We describe an atypical case of a non-fluent aphasia, which was related to the development of a brain arteriovenous malformation (BAVM).

## Case report

A diabetic and hypertensive 73 years old man developed in a few months a mild cognitive decline, with language difficulties in naming, loss of abstraction and metaphor and reduction of speech fluency. Neuropsychological evaluation showed deficits at the mini-mental state examination, at the token test, at the verbal memory tests and at the Weigl test. Neurological examination showed mild upper limbs pronation and hypopallesthesia at the upper and lower limbs. The progressive clinical presentation seemed suggestive for a neurodegenerative disorder. Laboratory investigations, evoked potentials and electroencephalography were normal. Brain contrast-enhanced MRI showed a left frontal aneurismatic BAVM, originating from branch vessel M1 of the left middle cerebral artery, with hemosiderin deposition, and associated with ischemic sufferance in the left frontal and temporal regions. Consequently the patient was addressed to a specialistic neurosurgical evaluation and he underwent to embolization of the BAVM.



## Discussion and conclusions

BAVMs are defined as the direct communication of arteries to abnormal veins without interposing capillaries. BAVMs are probably congenital, usually non-inherited lesions. Evidence suggests how these malformations can grow, regress and even reappear over time. The most common clinical manifestations of BAVM are hemorrhagic stroke, resulting from its rupture, and symptomatic epilepsy. Less common presenting symptoms are chronic headache and focal neurologic deficits (FNDs). Language disorders represent an atypical presentation of BAVMs, because even if these malformations may grow in eloquent areas such as language cortex, they usually do not lead to neurological function deficits unless ruptured. Because of the rarity of these clinical manifestations, there is a lack of knowledge about the mechanisms involved in their development. Our patient presented at the onset as a non-fluent aphasia, which spreads the clinical spectrum of BAVMs.

## References:

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