

<b>Case</b>	(643) Intraparenchymatous hematoma as a clinical debut of a falcine dural arteriovenous fistula.
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## CASE PRESENTATION

We report a case of a dural arteriovenous fistula (DAVF) which debuted as an intraparenchymatous hematoma. Patient came to Emergency Department with clinic of pulsatile cephalgia, progressive left sensitive deficit, dizziness and instability.

CT protocol for acute stroke was performed: computed tomography (CT), perfusion CT and CT angiography.

## DISCUSSION

CT showed a right frontal intraparenchymatous hematoma with mass effect on the right cerebral hemisphere and results in leftward midline shift and subfalcine and right uncus herniations.

CT angiography showed a prominent, varicose, venous cortical drainage to superior sagittal sinus from the intraparenchymatous hematoma. Also, at the start of the venous drainage, a venous aneurysm was detected.

Dural arteriovenous fistula (DAVF) was suggested as the most probable diagnosis because of this enlarged vein, and the absence of other features that may indicate an alternative diagnosis, such as a nidus (arteriovenous malformation) or enlarged pial arteries (pial arteriovenous fistula).

Digital subtraction angiography (DSA) revealed that many arterial branches feed the DAVF: left middle meningeal (main supply) and occipital arteries and right superficial temporal, tentorial and calcarine arteries.

Diagnosis was a falcine DAVF Cognard grade IV. Interventional radiologists embolized the outflow of the venous drainage, excluding the DAVF. On follow up, patient had no complications with complete resorption of the hematoma. DAVF are abnormal communications within the dural leaflets, between meningeal arteries and dural venous sinuses and/or subarachnoid veins. Its incidence is calculated for 10-15% of all intracranial vascular malformations. Although DSA remains the gold standard for detecting and evaluating a suspected DAVF, it is important to suspect it in non-invasive imaging techniques when some features are observed: intracranial hemorrhage, hydrocephalus, cerebral edema related to venous congestion, venous sinus occlusion or enlarged cortical veins.

Key features in DSA are the presence of early venous drainage due to an abnormal communication within the dural arterial system and dural venous sinuses and/or subarachnoid veins.

This feature is the base of current classification systems: Cognard and Borden. The higher the grade the higher probability of a more aggressive debut and the worse the natural history, including hemorrhage (as on our case) or neurological deficits.

## CONCLUSION

It is important to suspect a DAVF in non invasive imaging techniques when some features are observed: intracranial hemorrhage, hydrocephalus, cerebral edema related to venous congestion, venous sinus occlusion or enlarged cortical veins.

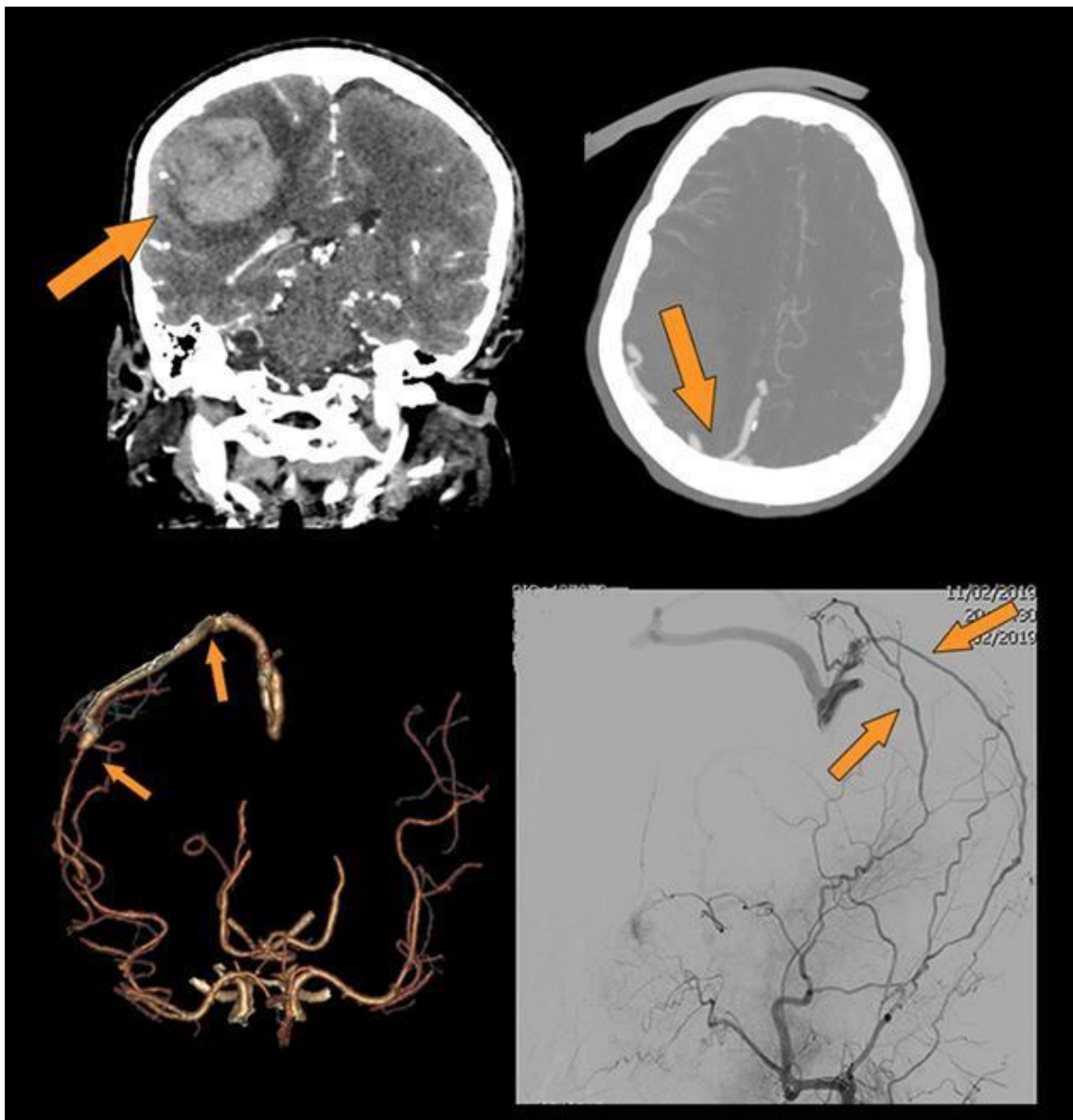


Figure 1 (top left): right frontal intraparenchymatous hematoma with mass effect.  
Figure 2 (top right): arrow shows a prominent vein draining to superior sagittal sinus.  
Figure 3 (bottom left): left arrow shows a venous aneurysm at the start of the vein, right arrow shows the varicose vein.  
Figure 4 (bottom right): a falcine DAVF with arrows showing left middle meningeal and occipital arteries) and early venous drainage.

## **BIBLIOGRAPHY**

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