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Intracerebral Hemorrhage Caused by Thrombosis of Developmental Venous Anomaly: Total Recovery following Anticoagulation

F. Toulgoat^a, D. Adams^b, G. Nasser^a, D. Ducreux^a, C. Denier^b

Departments of ^aNeuroradiology and ^bNeurology,
Bicêtre Hospital, Assistance Publique – Hôpitaux de Paris,
Le Kremlin-Bicêtre, France

Key Words

Intracerebral hemorrhage • Developmental venous anomaly • Cerebral venous thrombosis • Cavernoma • Cerebral angioma

A 44-year-old woman developed a headache and seizures. Neuroradiological examinations disclosed an intracerebral hemorrhage (ICH) due to venous infarction caused by thrombosis of a developmental venous anomaly (DVA) (fig. 1). No associated

cavernoma was found. Biological studies showed a heterozygous factor V status. Treatment associating antiepileptic drugs and anticoagulation were prescribed. The headache disappeared within a few days. Radiological follow-up showed a gradual resolution over a few weeks (fig. 1).

ICH in association with a DVA usually results from an associated bleeding cavernoma [1, 2]. More rarely, a DVA can thrombose, leading to hemorrhagic venous infarction, in which case anticoagulation can be justified in spite of the ICH [1, 2].

References

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Dr. Christian Denier
Department of Neurology, Centre Hospitalier de Bicêtre
78, rue du Général Leclerc
FR-94275 Le Kremlin-Bicêtre (France)
Tel. +33 145 212 618, Fax +33 145 212 853
E-mail christian.denier@bct.aphp.fr

Fig. 1. Initial cerebral imaging and evolution following systemic anticoagulation. Repeated unenhanced CT scan at admission (**a**), and on days 7 (**b**), 15 (**c**) and 20 (**d**) after anticoagulation. Areas of hyperdensity surrounded by hypodensities compatible with ICH progressively disappeared with anticoagulation. Note the decrease in visibility of the hyperdense spot in the posterior part, corresponding to the thrombus in the DVA (**a**; arrow). **e–h** MRI at admission. **e** Axial fluid-attenuated inversion recovery showing the hematomas with surrounding hyperintensity, and the hypointense spot in the posterior part corresponding to the thrombus in the DVA (arrow). **f** Gradient echo sequences showing the ICH and hypointense spot in the posterior part corresponding to the thrombus in the DVA (arrow). **g, h** Coronal and parasagittal re-

construction following the axis of the DVA on T₁ after gadolinium. Normal lateral sinus enhancement without opacification of the lumen of the collecting part of the DVA (delta sign), confirming the venous thrombosis at that level (white arrowhead). **i–l** Nine-month MRI control. The same sequences showing the complete resolution of the thrombosis without any associated significant parenchymal damages. **i, j** Axial fluid-attenuated inversion recovery and gradient echo sequences with a minimal residual scar from the hematoma. **k, l** Coronal and parasagittal reconstruction following the axis of the DVA on T₁ after gadolinium. Normal lateral sinus and DVA enhancement with the typical caput medusae appearance.