

Dural arteriovenous fistula post sinus thrombosis in puerperium

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A 28-year-old woman had a normal delivery (primipara) on January 15, 2009. On March 20, 2009, she suffered sudden onset of severe headache. Protein-S and protein-C levels were within the normal ranges. Computed tomography on admission showed no subarachnoid hemorrhage, and the patient was discharge with analgesic treatment. Four days later the patient presented again to our emergency department with increased headache, nausea, vomiting and bruit of the head. In view of the history and clinical evolution, an urgent computerized tomography (CT) brain scan with intravenous contrast was done showing the empty delta sign; as magnetic resonance imaging (MRI) scan was not available at that time, computed tomography in venograms (Fig. 1a,b) was performed revealing occlusion of the superior sagittal sinus and the bilateral transverse sinus. The patient was referred to the Department of Neurosurgery where a cerebral angiography confirmed sinus thrombosis (ST) and revealed a dural arteriovenous fistula (DAVF) involving the right transverse sinus fed by the branches of the right middle meningeal artery, and the right occipital artery draining through transverse and sigmoid sinuses to the straight sinus (Fig. 2a,b). Transarterial embolization with N-butylcyanoacrylate and detachable coils was performed, achieving occlusion of the fistula (Fig. 3a,b).

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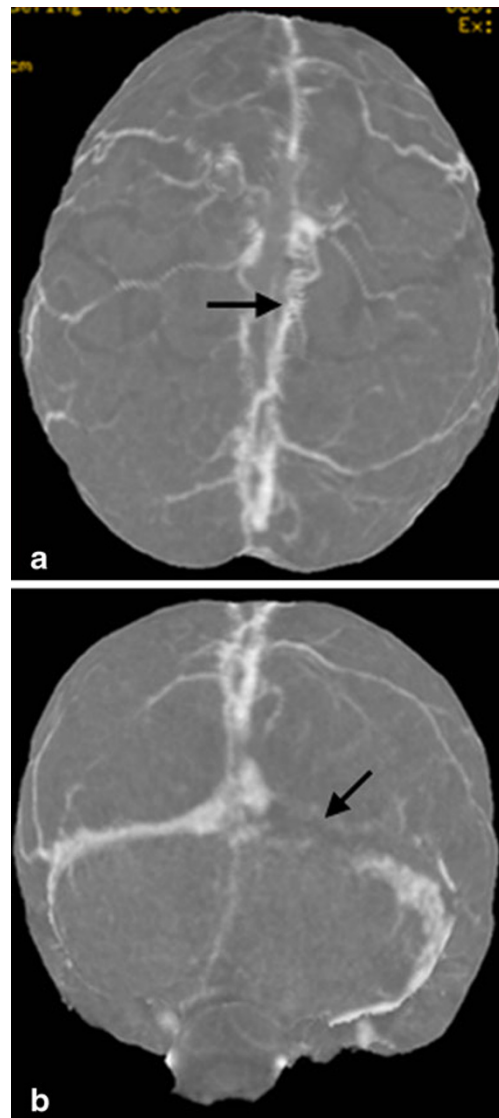
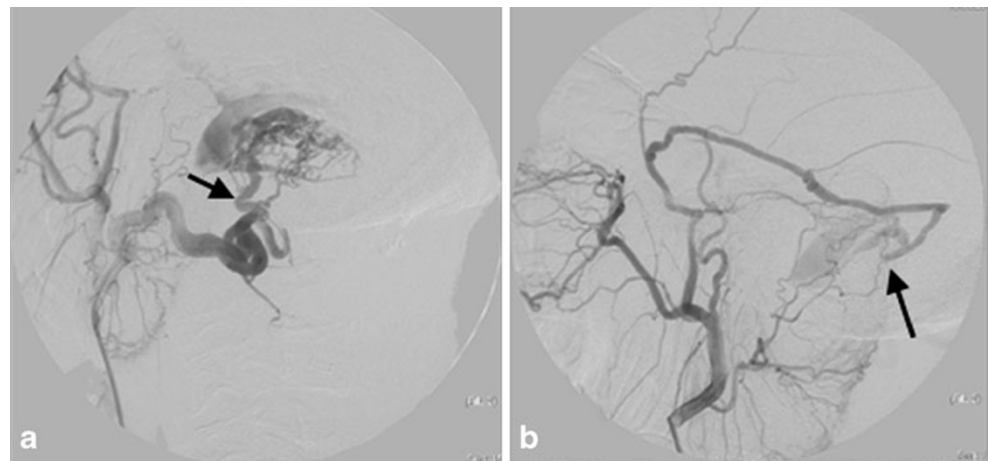


Fig. 1 Computed tomography venograms showing occlusion of the superior sagittal sinus (a) (arrow) and the bilateral transverse sinus (b) (arrow)

Fig. 2a, b Computed reconstruction 3D imaging showing dural arteriovenous fistula (arrows)



Fig. 3 Lateral right external carotid angiogram before the embolization (a) (arrow) and after the embolization (b) showing nearly complete occlusion of the fistula (arrow)



There is a clear-cut association between ST and DAF, although it may be difficult in some cases to ascertain if the thrombosis was a primary or secondary event [1]. The hypothesis proposed for the pathogenesis of DAVF is based on the physiological arteriovenous shunts between the meningeal arterial networks and the dural venous sinuses[2].

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