BRAINSTEM CAPILLARY TELANGIECTASIAS IN A PACIENT WITH CENTRAL VESTIBULAR SYNDROME

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ABSTRACT

Capillary telangiectasias repesent one of the four types of brainstem vascular malformations, characterized by multiple thin-walled vascular channels, interposed between normal brain parenchyma of unknown etiology. They are most of the time an incidental radiologic finding, almost all patients being asymptomatic. We present the case of a 65 years old male, admitted to our clinic for recurrent episodes of horizontal diplopia to lateral gaze on the left side, dizziness and unsteadiness of gait. The cerebral MRI showed imaging features characteristic for capillary telangiectasias in the brainstem and the cerebral angiography was normal.

Key words: capillary telangiectasias, malformation, brainstem.

BACKGROUND

Capillary telangiectasias are small areas of abnormally dilated capillaries within otherwise normal brain tissue. Although they most commonly occur in the pons, they have been described throughout the brain. Brainstem vascular malformations can be classified as arteriovenous malformations, venous malformations, cavernous malformations, or capillary telangiectasias. Capillary telangiectasias are occasionally found in conjunction with these other vascular malformations and the triad of capillary telangiectasias, cavernous malformation, and developmental venous anomaly has been reported. On pathological examination, capillary telangiectasias are a distinct type of vascular malformation, characterized by multiple thin-walled vascular channels, interposed between normal brain parenchyma although adjacent areas of gliosis and small amounts of hemorrhage have been described. The presence of normal brain tissue between the capillaries is a pathologic characteristic that distinguishes capillary telangiectasias from cavernous angiomas, although they may resemble each other on imaging studies.. The exact etiology of these telangiectasias, is unclear. It has been postulated that telangiectasias are acquired lesions, caused by other underlying venous anomalies. This would explain the frequently found presence of an associated vein at autopsy. Another possibility is a primary developmental lesion.

Capillary telangiectasias are most of the time an incidental radiologic finding, almost all patients being asymptomatic. They have, however, been associated with minor symptoms such as vertigo, headache, and dizziness, as well as weakness and seizures. There are no characteristic clinical features associated with capillary telangiectasias and this type of malformation rarely hemorrhage. These vascular malformations are typically occult on angiograms, are occasionally visible on CT scans but they are increasingly recognized by MR imaging, the ideal means of detecting and imaging these lesions being contrast-enhanced MRI. Typical MR imaging features include a variable T1 appearance, high signal intensity on T2-weighted images, contrast enhancement, and lack of mass effect. Because most of the lesions are asymptomatic and have fairly typical imaging findings, they are infrequently excised for biopsy.

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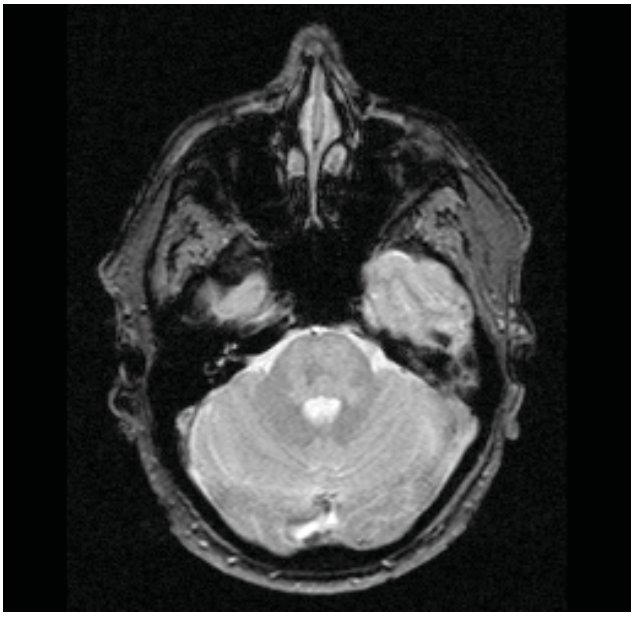
CASE STUDY

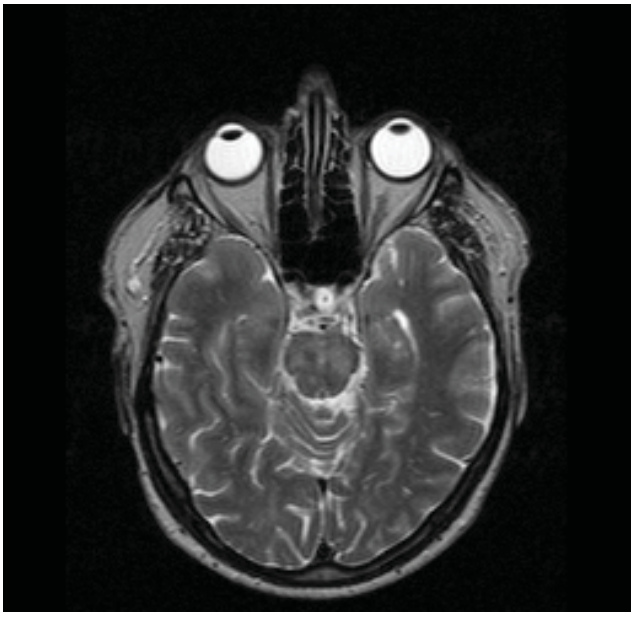
We present the case of a 65 years old caucasian male who was admitted to our clinic for recurrent episodes of horizontal diplopia to lateral gaze on the left side, dizziness and unsteadiness of gait. The patient had medical history of arterial hypertension. At the admission the neurologic exam revealed horizontal diplopia to lateral gaze on the left side, horizontal nystagmus on the lateral gaze to the left, Babinski's sign on the right side with no other neurological signs. The cranial CT scan was normal.

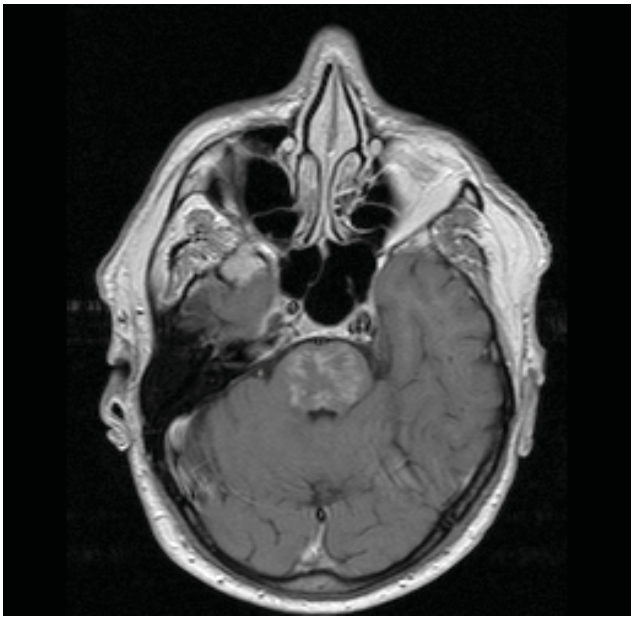
We performed a cerebral magnetic resonance imaging native and with iv contrast which showed focal areas of hyperintensity in T2-weighted images and FLAIR, with a central minimal hypointensity in T2*-weighted images, located in the brain stem, with no mass effect. The SWI showed thin vassels and post-gadolinium T1-weighted images revealed enhancement within the medulla, pons and mesencephalon. The MIP reconstruction showed vassels oriented to the pial surface and the fourth ventricle. The tractography showed no interruption or deviation of local bundels. The imaging features of the lesion were identical to those described for capillary telangiectasias in the brain stem.

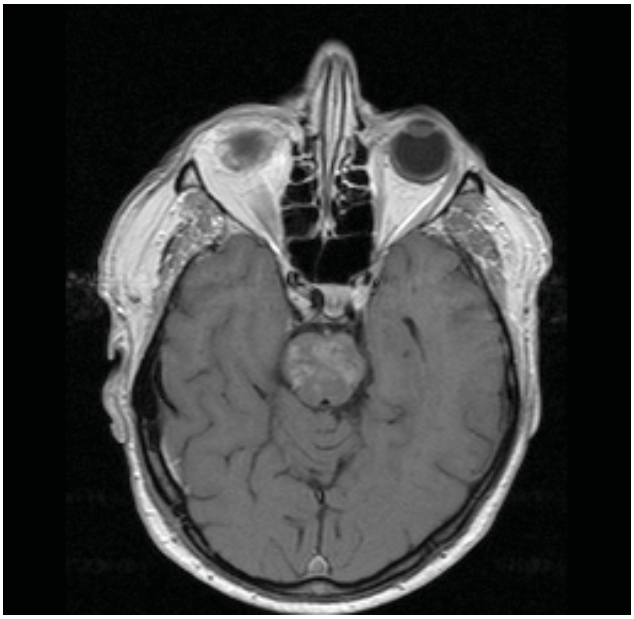
Other MRI findings were the enlarged Virchow-Robin spaces and few small areas of hyperintensity in T2-weighted and FLAIR images in the white matter, predominantly subcortical, without diffusion restriction, without gadolinium enhacement probably of ischemic etiology.

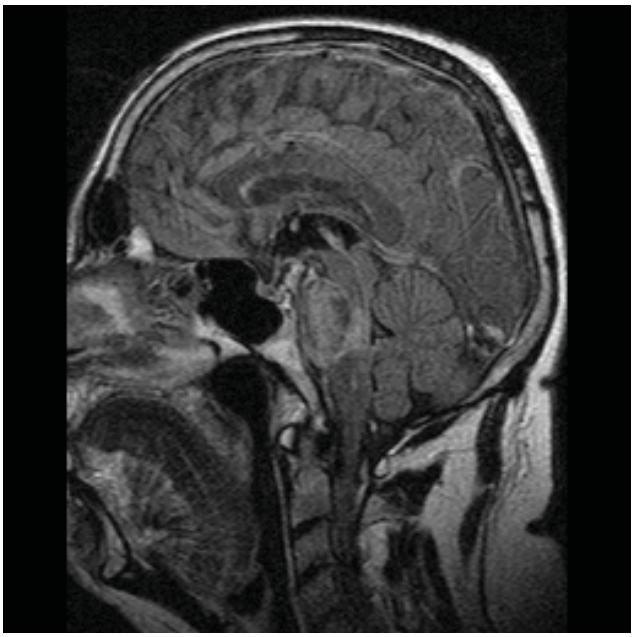
We also performed a cerebral angiography which did not detect abnormalities in the brain's blood vessels.

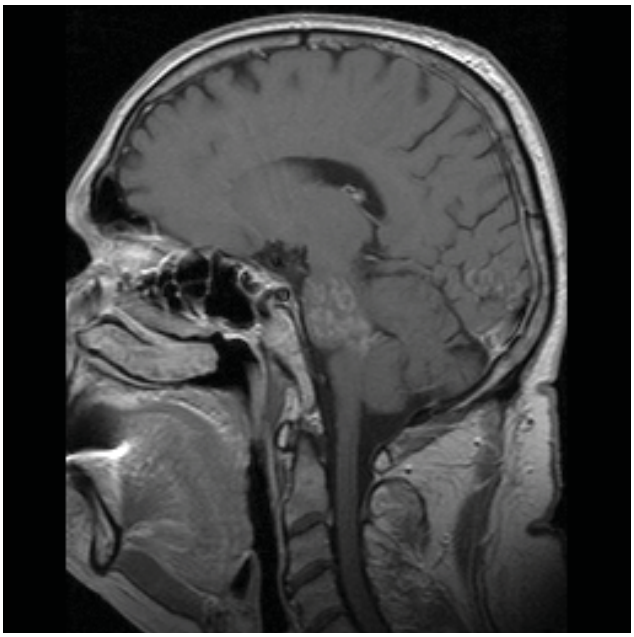


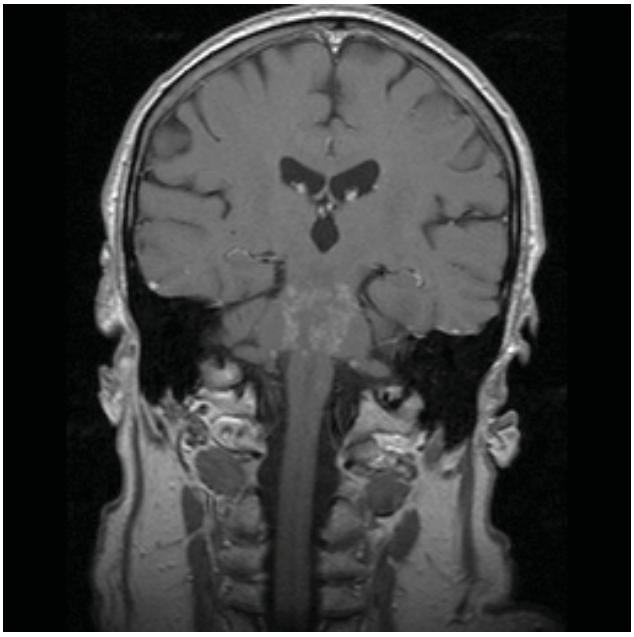


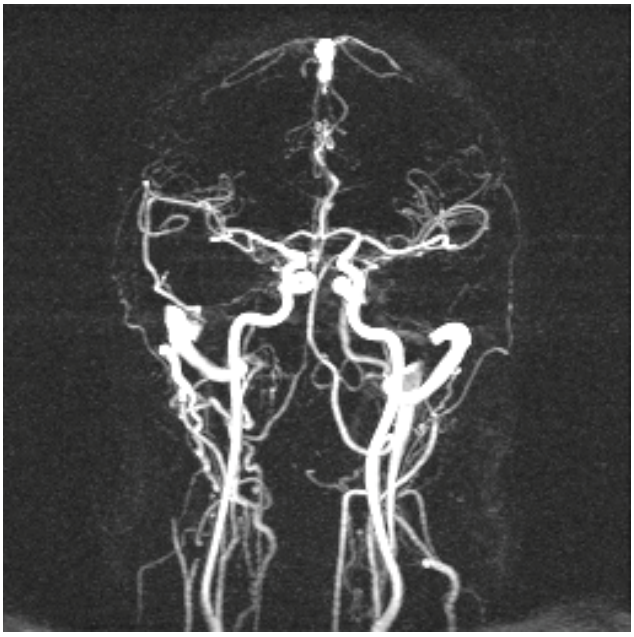












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