toires intrarachidiennes se manifestent typiquement par un processus en hyposignal T1 et T2 avec rehaussement important après injection de gadolinium [4]. Parfois, la lésion est en hypersignal hétérogène T2. Han et al. [5] ont supposé que l’hyposignal T2 pourrait être expliqué par un déficit relatif en protons mobiles au niveau du tissu fibreux, ce qui caractériserait les pseudotumeurs inflammatoires fibreuses. L’aspect strié en IRM n’a jamais été rapporté, il serait probablement caractéristique de la localisation durale. Le diagnostic différentiel principal des pseudotumeurs extradurales est essentiellement le lymphome et également les métastases, le myélome et le méningiome [1]. Sans biopsie, le diagnostic différentiel est difficile d’autant plus que le lymphome peut répondre à un traitement corticoïde simulant ainsi une pseudotumeur inflammatoire. Cependant, ces pathologies s’associent le plus souvent à des anomalies des spongineuses osseuses, qui n’existent pas dans les pseudotumeurs inflammatoires.

Références


Traumatic intracranial dissection: Mural hematoma on high-resolution MRI

Dissection intracrânienne d’origine traumatique: hématome mural en IRM haute résolution

Current imaging techniques are of limited value for the etiological diagnosis of intracranial artery disease. X-ray, magnetic resonance angiography (MRA) or ultrasounds methods are used to show luminal abnormalities and hemodynamic consequences but failed to image the vessel wall. High-Resolution MRI (HR-MRI) is promising for imaging mural abnormalities such as intracranial atherosclerotic plaque [1]. We present the case of a traumatic middle cerebral artery (MCA) dissection, with clear mural hematoma on HR-MRI.

A 25-year-old man was recently admitted to our neurologic department with post-traumatic headaches, followed by aphasia and right brachiofacial hemiplegia. Diffusion-weighted imaging demonstrated an acute ischemic stroke of the left MCA territory. On time-of-flight (TOF) MRA (1.2-mm slice thickness; 0.6-mm interslice gap), the distal left M1 portion and the insular branches were irregular and stenotic. High-resolution T2 and fat-suppressed T1 MR sequences were performed using an eight-channel brain-array coil, on a 1.5-Tesla Signa MR Unit (General Electric Healthcare, Milwaukee, WI), acquired along the MCA short axis. Black blood imaging was performed using double-inversion-recovery fast spin-echo sequences with electrocardiographic gating. T2-weighted imaging (T2-WI) and T1-weighted imaging (T1-WI) (2-mm thickness; 2-mm spacing) demonstrated a...
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Figure 1  MR angiography (A): narrowing of M1 and distal left MCA (arrow). Fat suppressed T1- and T2-WI (B, C): crescent hyperintense thickening of the vessel wall of the M1 segment (double arrow). Two months later, both of these were no longer visible (D—F) and there was a pseudoaneurysmal evolution of the caudal M2 stenosis (arrowhead).

crescent-shaped inferior mural hypersignal of the distal M1 segment (Fig. 1 A–C). These features were consistent with an intracranial dissection. The possibility of a partial thrombus recanalization could also be considered. However, the lesion observed was located strictly outside the arterial lumen. Two months later, the crescentic mural thickening and stenosis were no longer visible whereas a pseudoaneurysm had appeared on the caudal insular branch (Fig. 1D and E). The reversible hyperintense crescentic mural thickening in conjunction with the pseudoaneurysmal evolution confirmed the diagnosis of traumatic MCA dissection.

Several non-invasive imaging modalities, including computed tomography and MRA, are available to demonstrate artery lumen patency. However, these approaches have limited specificity to distinguish between vascular pathologies such as atherosclerosis or dissection, because both produce similar luminal abnormalities. HR-MRI of the arterial wall is a non-invasive imaging technique that provides an excellent depiction of the structural characteristics of the vessel wall and lumen. This technique has been extensively used for cervical carotid stenosis, and, more recently, for cervical artery dissection [2] and intracranial atherosclerosis [1,3]. There is growing evidence that HR-MRI is a valuable tool to image intracranial vessel wall [4]. Intracranial dissections, often traumatic in origin, are a rare pathology and a diagnostic challenge, mainly based on a suggestive clinical presentation, exclusion of atherosclerosis and supportive imaging evidence. However, pathognomonic angiographic findings of dissection, such as double lumen or intimal flap, are rarely observed. Moreover, the tortuous course of intracranial arteries, great variability in normal vessel caliber and small size of the mural hematoma contribute to the difficulty of making a reliable diagnosis. Suppression of the intra-arterial blood signal coupled with the high spatial resolution provided by HR-MRI improve the detection of mural hematoma, seen as a crescentic hyperintense mural thickening, with an eccentric residual lumen. This morphological information could be helpful in distinguishing between intracranial dissection and partial thrombus recanalization.

Conflicts of interest

None of the co-authors has any financial interest in the subject matter or material discussed in the manuscript.

References


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