High-resolution vessel wall imaging in human neurocysticercosis with leptomeningitis

Imagens de alta resolução das paredes dos vasos na neurocisticercose humana, com leptomeningite

Luiz Fernando Monte Borella1, Dafny Soares Leitao2, Eduardo de Oliveira Narvaez3, Marcelo de Carvalho Ramos2, Fabiano Reis1

1 Universidade Estadual de Campinas, Faculdade de Ciências Médicas, Departamento de Radiologia, Campinas SP, Brazil.
2 Universidade Estadual de Campinas, Faculdade de Ciências Médicas, Departamento de Infectologia, Campinas SP, Brazil.
3 Hospital Beneficência Portuguesa de São Paulo, Departamento de Radiologia, São Paulo SP, Brazil.


The high-resolution vessel wall imaging (HR-VWI) is a millimetric technique that demonstrates vessel wall inflammation, which can occur simultaneously with leptomeningitis. Encephalic infarction may be observed in less than 50% of the cases.1–3

Figure 1 Axial Fast Imaging Employing Steady-state Acquisition (FIESTA) images (A and B): cystic lesions in the subarachnoid space. Axial T1 post-contrast (C and D): a nodular lesion with peripheral contrast enhancement in the left calcarine region (arrow) and leptomeningeal enhancement (arrowhead). The MIP axial TOF MRA and DWI images (E and F) showed no significant abnormalities. Abbreviations: DWI, Diffusion-weighted imaging; MIP, Maximum Intensity Projection; MRA, Magnetic Resonance Angiography; TOF, Time-Of-Flight.
A 42-year-old man with neurocysticercosis, presented headache and visual blurring. Magnetic resonance imaging (MRI) and HR-VWI scans were performed, as demonstrated in Figures 1 and 2, respectively. The findings contribute to the pathophysiology of the disease, by demonstrating concentric and irregular wall enhancement (vasculitis). The degree of vessel involvement correlates with the severity of disease stage, and was demonstrated in other infections, such as syphilis and tuberculosis, but not in neurocysticercosis.

Authors’ Contributions
LFMB: conceptualization, data curation, investigation, writing-original draft; DSL: conceptualization, data curation, investigation; EON: conceptualization, visualization, writing-review & editing; MCR, FR: conceptualization, formal analysis, project administration, visualization, writing-review & editing.

Conflict of Interest
The authors have no conflict of interests to declare.

References