



ORAL PRESENTATION

The role of vessel wall imaging: a new diagnostic imaging approach?

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Abstract

Introduction: Primary angiitis of the central nervous system (PACNS) is an uncommon disorder of unknown cause but, nonetheless, an important diagnosis since immunosuppressive treatment timing sets the prognosis. Despite new advances in magnetic resonance imaging (MRI), brain biopsy remains the only definitive diagnostic procedure.

Case Report: A 63-year-old man with diabetes, hypertension and obesity presented with sudden onset of speech impairment. Neurological examination revealed a minor right central facial palsy and dysarthria. Computed tomography depicted frontal lobe leukoencephalopathy. Transcranial doppler ultrasound identified increased cerebral blood flow velocity in multiple intracranial artery segments: middle cerebral arteries (MCA) and right anterior (ACA) and posterior cerebral (PCA) arteries. MRI demonstrated multiple small T2-hyperintense foci in the fronto-parietal white-matter, showing

restricted diffusion. Additionally, stenoses of both posterior communicating arteries and in segments of the MCA and ACA were found. Finally, intracranial vessel wall MRI (VWMRI) was performed, showing two eccentric stenoses of both A2 segments, suggestive of atheromatosis, and uniform concentric contrast-enhancement in MCA and PCA, whose distribution would favour vasculitis although vessel obliquity affects an accurate evaluation. Other autoimmune diseases were excluded and cerebrospinal fluid examination was unremarkable. Due to these overlapping findings, a thorough vigilance will be done and brain biopsy may be considered.

Conclusion: VWMRI may help in the diagnosis of PACNS, as shown by this clinical case. Nevertheless, this technique still has equivocal and overlapping findings. We hope that in the future this imaging method may allow a better non-invasive study of intracranial artery disease aetiology.

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