The role of conventional MR imaging sequences in the evaluation of neurocysticercosis: impact on characterization of the scolex and lesion burden.

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BACKGROUND AND PURPOSE: There are few studies comparing the capacity of lesion detection of conventional MR imaging in neurocysticercosis (NCC). This study was designed to clarify its role in the evaluation of this disease, focusing on the total number of lesions identified and the characterization of the scolex.

MATERIALS AND METHODS: MR images from 115 patients were prospectively collected during a 3-year interval, including axial spin-echo (SE) T1-weighted; axial fast SE T2-weighted; axial fluid-attenuated inversion recovery (FLAIR); and gadolinium-enhanced axial, coronal, and sagittal SE T1-weighted sequences. They were compared regarding the potential for detection of NCC lesions and specifically of the scolex.

RESULTS: Comparing all sequences, we found that FLAIR images were more sensitive to the detection of the scolex (P < .003), whereas the last gadolinium-enhanced T1-weighted series (coronal or sagittal) identified the highest number of lesions (P < .001).

CONCLUSION: When dealing with NCC, optimal MR imaging protocols should include FLAIR images to obtain maximal rates of scolex detection. Special attention should be paid to the last gadolinium-enhanced sequence, which maximizes the quantification of lesion load.