Parenchymal brain calcified cysticercus and progression of hippocampal atrophy

Cisticerco calcificado en el parénquima cerebral y progresión de atrofia de hipocampos

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A seizure-free 74-year-old woman had a single calcified cysticercus (Figure 1), and normal hippocampi (Figure 2, upper panel). Neuroimaging exams were practiced for a study aimed to assess the association between neurocysticercosis and hippocampal atrophy (HA).[1] Seven years later, a control MRI showed bilateral HA (Figure 2, lower panel). The patient remained seizure-free during the observation period.

The association between calcified cysticercus and HA in seizure-free individuals has been recognized.[2] It has been postulated that repetitive episodes of inflammation from antigens released to the brain parenchyma from calcifications are responsible for remote HA. However, HA progression in these patients has not been reported. This case underscores the need of early treatment with bisphosphonates to reverse the calcification process in the brain, reducing the risk of progressive HA.[3]

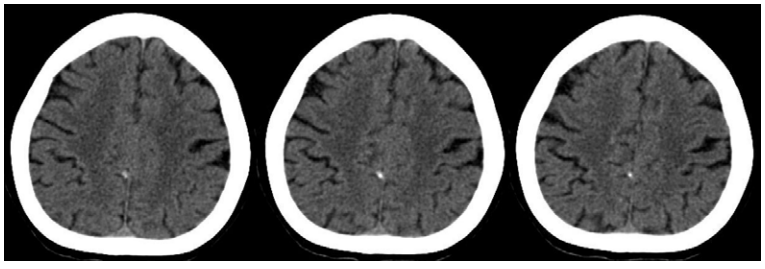

Figure 1. Unenhanced CT of the head (slice thickness 3mm; no gap between slices) showing a calcified lesion >3mm in diameter (visualized in three sequential slices) located in the right parietal lobe near the midline.

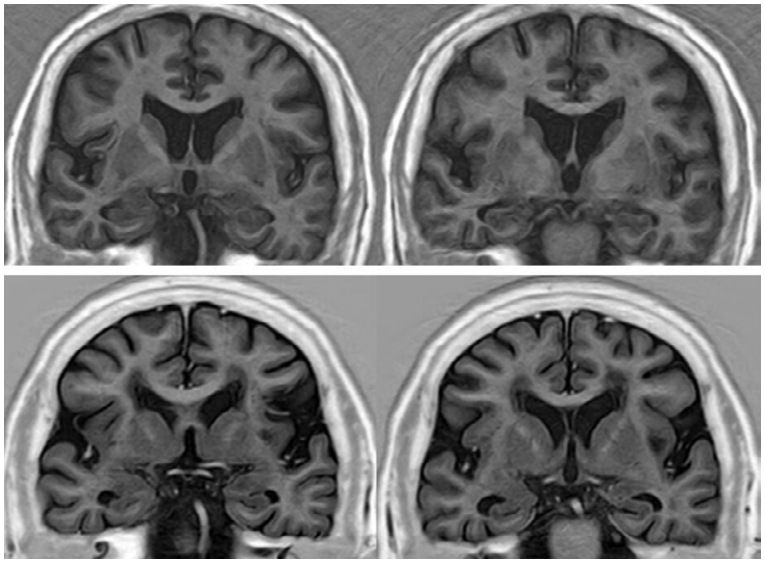

Figure 2. T1-weighted inversion recovery sequence (acquisition time 3:31 min, repetition time 2.250 msec, echo time 11 msec, and inversion time 400 msec) oriented in the coronal plane and perpendicular to the long axis of the temporal bone. At baseline (upper panel) hippocampi were normal according to the Scheltens' medial temporal atrophy scale. Seven years later (lower panel) both hippocampi were atrophic (grade 3 in the Scheltens' scale).

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Declaration: The patient signed comprehensive informed consent forms before the practice of neuroimaging studies (at baseline and follow-up). The Atahualpa Project cohort was approved by the Ethics Committee of Hospital-Clínica Kennedy, Guayaquil (FWA 00030727). Research was conducted following the ethical principles of the Declaration of Helsinki.

References

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