Krabbe disease: a differential cause of the hyperdense boomerang sign

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Arq. Neuro-Psiquiatr. 2025;83(12):s00451809997.

A 1.5-year-old female child presented with regression of developmental milestones, spastic tetraparesis, and fever. Computed tomography (CT) scans showed hyperdensity, and magnetic resonance imaging (MRI) scans revealed restricted diffusion in the splenium of the corpus callosum, characterizing the boomerang sign (►**Figure 1**). On the follow-up examination, bilateral and symmetrical T2 and fluid-attenuated inversion recovery (FLAIR) hyperintense lesions were observed in the cerebral white matter, predominantly in the parieto-occipital regions, presenting a tiger- or leopard-skin pattern, as well as involvement of the brainstem, corticospinal tracts, and dentate nuclei (►**Figure 2 A–C**). Additionally, bilateral thickening and enhancement of the cranial nerves were noted, most prominently in the cisternal portions of the III, V, and VI pairs, and in the intracanalicular portions of the VII and VIII pairs. Diffuse thickening and enhancement of the spinal roots were also observed (►**Figure 2 D–G**). Krabbe disease was confirmed through genetic testing, which identified the c.884A>T variant in heterozygosity in the *GALC* gene. In clinical presentations featuring hyperdense lesions on CT and restricted diffusion on MRI in the corpus callosum (splenium), Krabbe disease should be considered.[1–4]

Authors' Contributions
Conceptualization: LAQC, SFAJ, ADCC, NVW; Data curation: LAQC, SFAJ, ADCC; Investigation: LAQC, SFAJ, ADCC; Writing – original draft: LAQC, SFAJ, ADCC; Writing – review & editing: NVW.

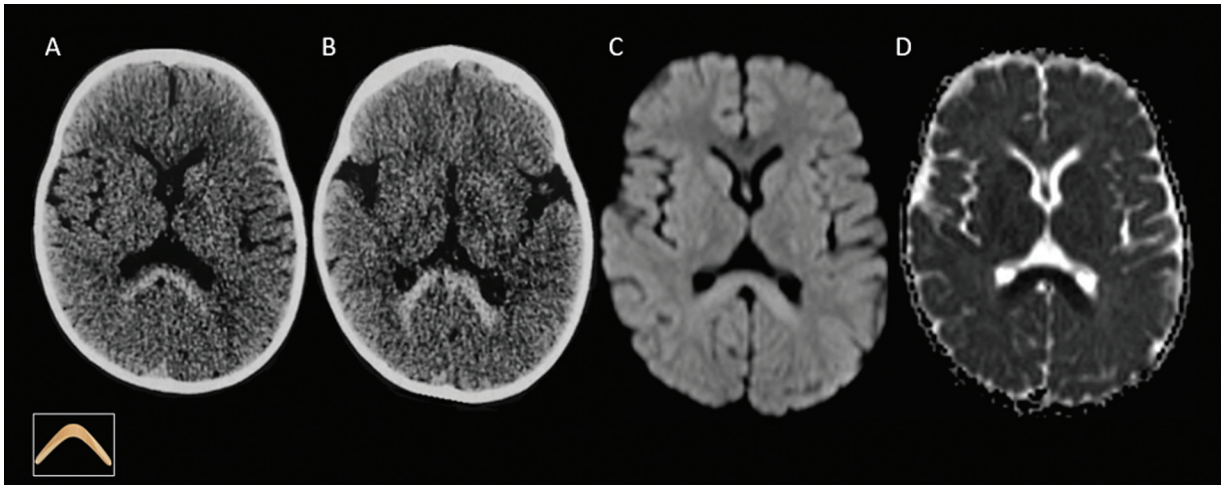

Figure 1 Brain computed tomography (CT) and magnetic resonance imaging (MRI) scans revealing hyperdensity (**A**,**B**) and restricted diffusion (**C**,**D**) in the splenium of the corpus callosum.

received
March 10, 2025
received in its final form
May 05, 2025
accepted
May 7, 2025

DOI https://doi.org/10.1055/s-0045-1809997.
ISSN 0004-282X.

Editor-in-Chief: Hélio A. G. Teive.
Associate Editor: Leandro Tavares Lucato.

Thieme Revinter Publicações Ltda., Rua Rego Freitas, 175, loja 1, República, São Paulo, SP, CEP 01220-010, Brazil

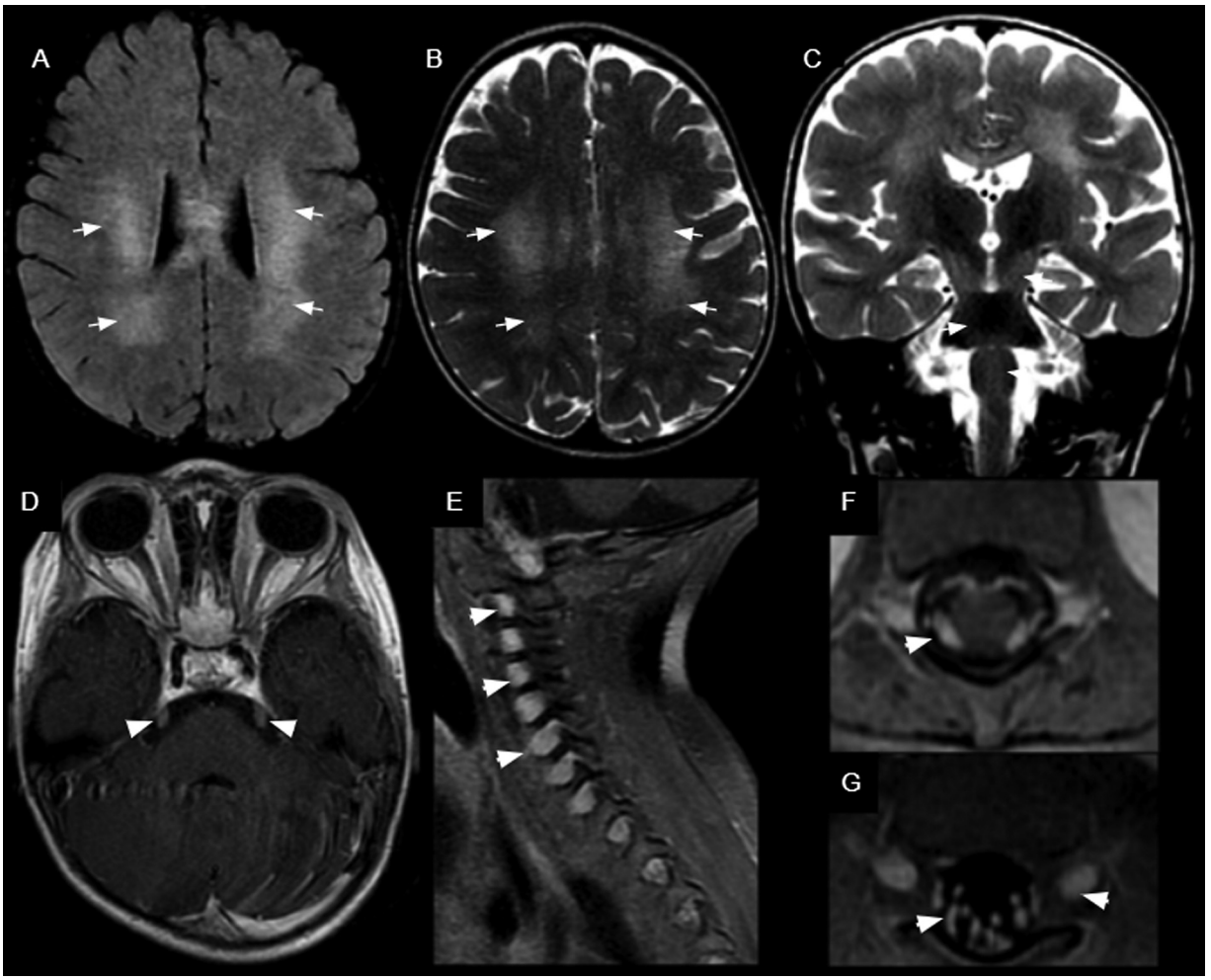

Figure 2 Brain MRI scans revealing bilateral and symmetrical T2 and fluid-attenuated inversion recovery (FLAIR) hyperintense lesions in the white matter of the cerebral hemispheres, predominantly in the parieto-occipital regions, displaying a tiger-like or leopard-skin pattern (white arrows in **A** and **B**). Involvement of the brainstem and corticospinal tracts (white arrows in **C**) was observed, along with thickening and enhancement of the trigeminal nerves (white arrowhead in **D**) and spinal roots (white arrowheads in **E**, **F**, and **G**).

Conflict of Interest

The authors have no conflict of interest to declare.

Data Availability Statement

The data supporting the conclusions of the present study are available in our institution's database.

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