Reversible Corona Radiata Diffusion Restriction in Hypoglycemic Coma

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Keywords

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Figure 1. Top panel, brain magnetic resonance imaging (MRI) on admission. A, Axial fluid attenuated inversion recovery (FLAIR) imaging reveals abnormality in the corona radiata (arrows). There is increased diffusion-weighted (DWI) signal (B) with reduced apparent diffusion coefficient (ADC) signal (C) confirming diffusion restriction. Bottom panel, brain MRI at 1 month. D, Axial FLAIR, DWI (E), and ADC images (F) show complete resolution.

Thirty-four hours after last being seen well, a 45-year-old diabetic woman was discovered in profound hypoglycemic coma. Magnetic resonance imaging (MRI) revealed bilateral symmetrical corona radiata signal abnormality with diffusion restriction (Figure 1A-C). Electroencephalogram revealed diffuse slowing. Overall, a poor clinical outcome was predicted. However, with rapid establishment of euglycemia and supportive

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care, the patient slowly recovered over the next 4 weeks. Repeat MRI showed reversal of all neuroimaging findings (Figure 1D-F). By 3 months, she was discharged home with a modified Rankin scale score of 1.

Prognosis is reported to be poor for patients presenting in severe hypoglycemic coma with bilateral white matter diffusion restriction.¹ However, our unique case highlights that occasionally, the MRI findings may reverse and good clinical outcome be achieved.

Authors' Note

The idea for this article was conceived by Professor Stephen Stuckey and Dr Ronil Chandra. The guarantor is Dr Ronil Chandra and Professor Dominic Thyagarajan. The article was written by and images were prepared by Dr Lee-Anne Slater. The case was managed by Professor Dominic Thyagarajan. All authors have made substantial contributions to conception of the manuscript, drafting, and

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