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Neuroimaging features in diethylene glycol poisoning

Alterações de neuroimagem cerebral na intoxicação por dietilenoglicol

Cilmário Leite da SILVA JÚNIOR[1], Leonardo Furtado FREITAS[1], Mariana Leite PEREIRA[2], Juliana Souza Silva ELIAS[2], José Luiz PEDROSO[3], Victor Hugo Rocha MARUSSI[1]

A 55-year-old man presented with acute onset vomiting, tetraplegia and ptosis, that progressed to renal failure and coma, four days after consuming beer. Several people that consumed that specific beer developed similar symptoms. Brain MRI showed restricted diffusion on cerebellum and thalamus (Figures 1 and 2). Beer analysis showed high levels of diethylene glycol. Patient died days later.

Diethylene glycol is a substance commonly used in industrial products including antifreeze and coolant. Its toxicity causes severe metabolic acidosis, coma and multiorgan failure[1]. Neurological toxicity is less well characterized, but brain MRI lesions may include cerebellar and thalamic abnormalities, with diffuse restriction[2].

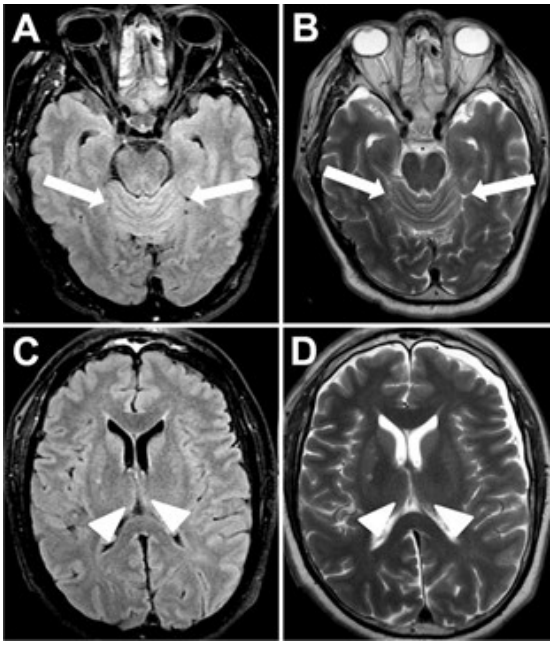

Figure 1. Axial FLAIR- (A) and T2-weighted (B) brain MRI shows bilateral hyperintense signal in the superior region of the cerebellar hemispheres (arrows). Axial FLAIR- (C) and T2-weighted (D) brain MRI shows hyperintense signal in ventromedial region of the thalamus (arrows).

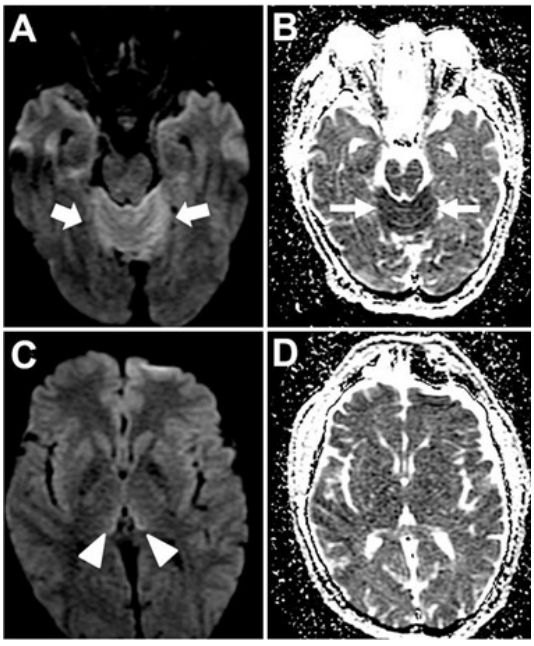

Figure 2. Axial DWI / ADC-weighted brain MRI discloses restricted diffusion at the superior region of the cerebellar hemispheres (A) and in the ventromedial region of the thalamus (B), with respective correspondence on ADC images (C and D).

[1]Hospital Beneficência Portuguesa São Paulo, BP Medicina Diagnóstica, Departamento de Neurorradiologia, São Paulo, SP, Brazil.

[2]Hospital Santa Casa de Juiz de Fora, Departamento de Neurorradiologia, Juiz de Fora, MG, Brazil.

[3]Universidade Federal de São Paulo, Departamento de Neurologia, São Paulo, SP, Brazil.

Cilmário Leite da Silva Júnior https://orcid.org/0000-0002-7923-4779, Leonardo Furtado Freitas https://orcid.org/0000-0001-6944-4978, Mariana Leite Pereira https://orcid.org/0000-0003-1503-752X, Juliana Souza Silva Elias https://orcid.org/0000-0003-0262-8793, José Luiz Pedroso https://orcid.org/0000-0002-1672-8894, Victor Hugo Rocha Marussi https://orcid.org/0000-0002-0333-0342

Correspondence: Cilmário Leite da Silva Júnior. Email: radiopedc@gmail.com.

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Ethical statement: Family members of the patient consented with the publication of the manuscript.

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