

Treatment of West syndrome with vigabatrin

Reversible MRI signal changes

Arnolfo de Carvalho Neto^{1,2}, Luiz Otávio de Mattos Coelho¹,
Sergio Eiji Ono¹, Ana Chrystina de Souza Crippa²

A 7-month-old with West syndrome was being treated with vigabatrin and a MRI scan was requested to rule out other possible pathologies. The examination revealed typical abnormalities described in the literature with the use of this drug¹⁻⁴. Vigabatrin was discontinued and follow-up scan showed signal normalization (Figure). This imaging pattern with the use of vigabatrin is more commonly seen in younger infants (≤ 12 months), patients with cryptogenic infantile spasms¹ and treatment using relatively high dose of this drug^{2,3}. To explain the changes in the diffusion imaging a recent study analyzed the diffusion tensor, but did not reach a definite conclusion if the changes are attributed to myelin abnormalities or to axonal damage⁴. The imaging pattern described here should be promptly recognized by the neuroradiologist in the appropriate context and the treatment using this drug should be discontinued.

REFERENCES

1. Dracopoulos A, Widjaja E, Raybaud C, Westall CA, Snead OC. Vigabatrin-associated reversible MRI signal changes in patients with infantile spasms. *Epilepsia* 2010;51:1297-1304.
2. Pearl PL, Vezina LG, Saneto RP, et al. Cerebral MRI abnormalities associated with vigabatrin therapy. *Epilepsia* 2009; 50:184-194.
3. Thelle T, Gammelgaard L, Hansen JK, Ostergaard JR. Reversible magnetic resonance imaging and spectroscopy abnormalities in the course of vigabatrin treatment for West syndrome. *Eur J Paediatr Neurol* 2011; 15:260-264.
4. Simao GN, Zarei Mahmoodabadi S, Snead OC, Go C, Widjaja E. Abnormal axial diffusivity in the deep gray nuclei and dorsal brain stem in infantile spasm treated with vigabatrin. *AJNR Am J Neuroradiol* 2011;32:199-203.

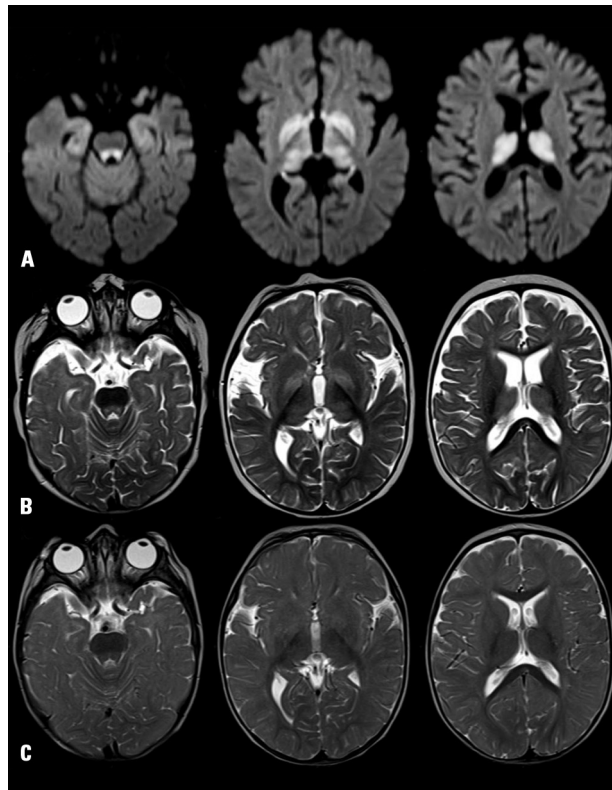


Figure. Row A shows initial MRI scan with restricted diffusion – high DWI signal (low signal in ADC map not shown) – in the dorsal brain stem, in the globus pallidi and in the thalami. Row B is the corresponding T2 weighted initial scan. Row C shows signal normalization on T2 weighted images three months after discontinuation of vigabatrin (diffusion imaging also normalized, not shown).

TRATAMENTO DA SÍNDROME DE WEST COM VIGABATRINA: ALTERAÇÕES DE SINAIS REVERSÍVEIS NA RESSONÂNCIA MAGNÉTICA

¹DAPI, Diagnóstico Avançado por Imagem, Curitiba PR, Brazil; ²Hospital de Clínicas da Universidade Federal do Paraná, Curitiba PR, Brazil.

Correspondence: Arnolfo de Carvalho Neto - DAPI Diagnóstico Avançado por Imagem - Rua Brigadeiro Franco 122 - 80430-210 Curitiba PR - Brasil. E-mail: arnolfo@dapi.com.br

Received 2 June 2011. Received in final form 15 July 2011. Accepted 22 July 2011.