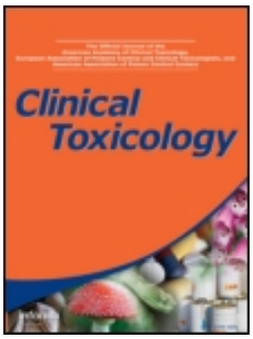

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AV block II in a toddler after ingestion of a single tablet fingolimod

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LETTER TO THE EDITOR

AV block II in a toddler after ingestion of a single tablet fingolimod

To the Editor:

Fingolimod (Gilenya®), a sphingosine-1-phosphate receptor agonist, is a new oral drug for treatment of multiple sclerosis in adults.[1] Fingolimod is known to have a transient negative chronotropic effect in healthy adolescents and adults, wherefore telemetry is recommended for six hours post first dose. This adverse reaction attenuates over time with continued administration.[2] The drug is not used in toddlers and the literature is very limited regarding the consequences of fingolimod in overdose.[3]

We hereby report a case of a healthy 4-year-old boy with a weight of 17 kg who ingested one 0.5 mg Gilenya tablet, that is, the daily dose for an adult. The pharmaceutical was prescribed for his mother who immediately discovered, and in fact observed, the incident. No other drugs were ingested. She called the poison centre who arranged urgent transport to hospital. The patient received 10 g of charcoal in the ambulance 45 min post ingestion. On arrival at the emergency department 90 min post ingestion the boy was unaffected. His heart rate was 87 per minute and the blood pressure 108/70 mmHg. The ECG, however, displayed AV-block I with a PQ-time of 196 ms. The patient was admitted for observation including continuous cardiac monitoring. During the period between 2 and10 h post ingestion, the cardiac monitoring displayed an age-related bradycardia of 58–78 beats per minute and AV block I alternating with AV block II with Wenckebach phenomenon. The blood pressure measurements during the same period showed hypotension down to 77/34 mmHg. The only treatment given was saline intravenously. The patient was discharged after 24-h observation. At follow-up 2 days later the ECG displayed normal sinus rhythm with a PQ-time of 164 ms.

Fingolimod is an immunomodulating agent developed for preventing rejection of renal transplant. Its ability to keep lymphocytes in the lymph nodes has been found useful in the treatment of multiple sclerosis. However, its cardiac side effects call for attention, especially after exploratory ingestions among toddlers. Experimental research indicates that the mechanism of reduced heart rate occurs via activation of G-protein-regulated, inward-rectifying potassium channels in atrial myocytes, probably via sphingosine-1-phosphate receptors.[4]

Because multiple sclerosis occurs among people in fertile age, fingolimod may be available in homes with small children. We would like to emphasise the risks involved with this relatively new pharmaceutical as one single tablet apparently is enough to cause serious cardiac reactions in a child.

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Declaration of interest

The authors report no declarations of interest. The authors alone are responsible for the content and writing of the paper.

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The case will be presented as a poster at the EAPCCT congress in Brussels in May.

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