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

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Objective
Fingolimod (Gilenya) is a new oral drug for treatment of multiple sclerosis in adults (1). It is known that fingolimod therapy commonly carries adverse reactions such as a negative chronotropic effect and an increased atrioventricular conduction time in adolescents and adults (2). However, the drug is not used in children and reports describing the consequences of fingolimod in overdose are extremely limited (3).

Case presentation
A healthy 4-year-old boy ingested one 0.5 mg Gilenya tablet, i.e. the daily dose for an adult. The pharmaceutical was prescribed for his mother who immediately discovered the accident. She called the poison centre who arranged urgent transport to hospital. The patient received charcoal in the ambulance 45 minutes post ingestion.

On arrival at the emergency department 90 minutes post ingestion the boy was unaffected. His heart rate was 87 bpm and BP 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 and 10 hours post ingestion, the cardiac monitoring displayed an age-related bradycardia of 58-78/minute and AV block I alternating with AV block II with Wenckebach phenomenon. The BP measurements during the same period showed hypotension down to 77/34 mmHg. The patient was discharged after 24 hours observation. At follow-up two days later the ECG displayed normal sinus rhythm with a PQ-time of 164 ms and normal liver function tests.

Discussion
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 unintentional ingestions among toddlers.

Conclusion
This is, to our knowledge, the first reported case of fingolimod ingestion in a child. Since 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.

References