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Images in Congenital Cardiac Disease

Artefactual atrial flutter due to interference from a portable media device

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Abstract Portable media devices are widely used by today's youth. When used in hospitals, these devices can produce artefactual arrhythmias on telemetry.

Keywords: Artefactual atrial flutter; portable media devices; arrhythmia; electronic interference

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Case

A 15-YEAR-OLD GIRL WAS ADMITTED TO OUR HOSPITAL after ingesting 200 mg immediate-release methylphenidate. She had altered mental status but was haemodynamically stable. Her past history was insignificant, except for occasional presyncope. The patient transiently required benzodiazepines for agitation and supportive management. Electrocardiogram (Fig 1) and echocardiogram studies were unremarkable. Even after resolution

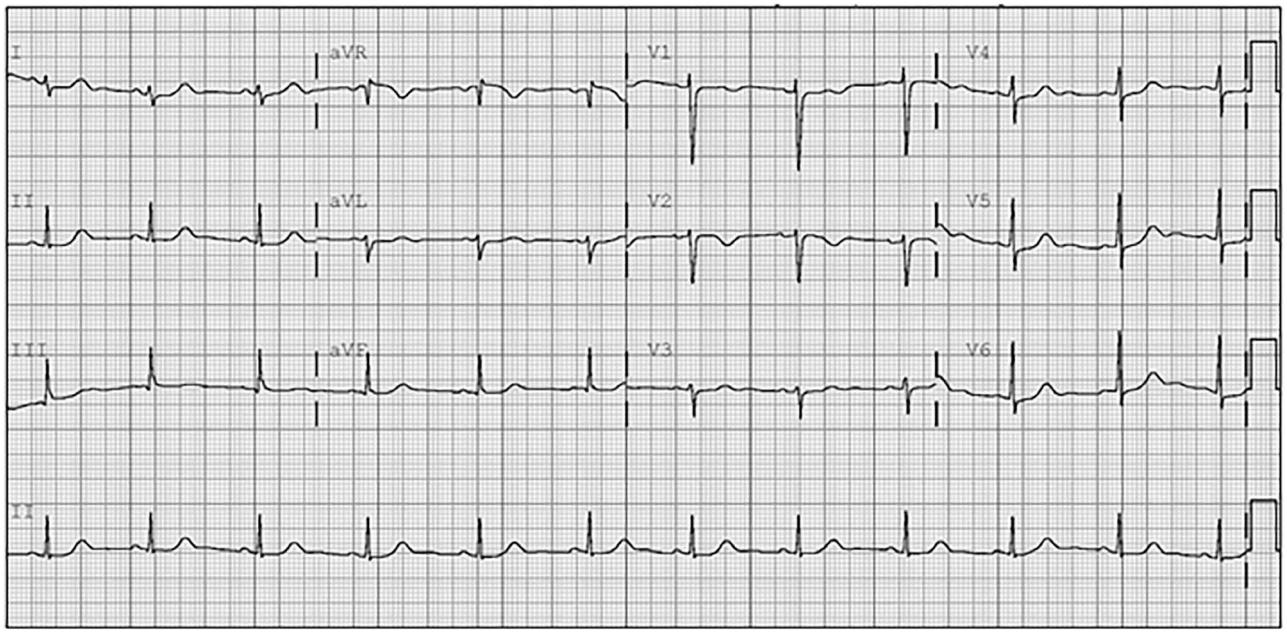


Figure 1.
Baseline electrocardiogram.

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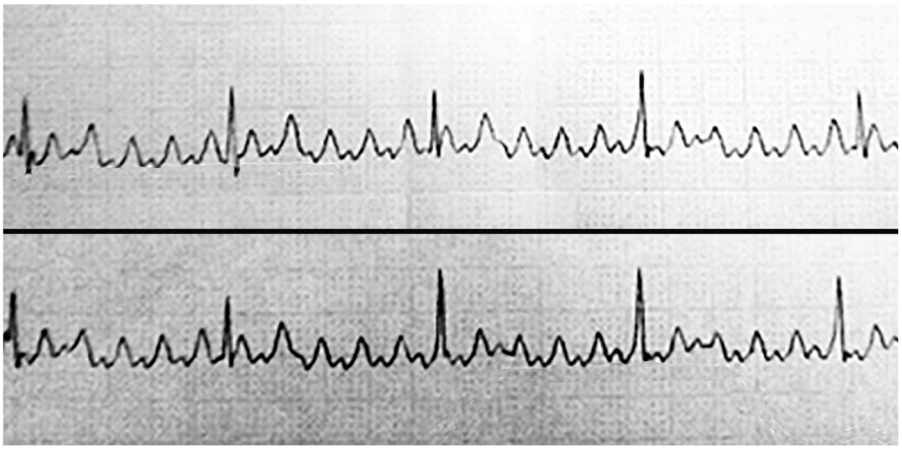


Figure 2.
Telemetry strip demonstrating the artefactual atrial flutter (300/minute).

of the acute episode, her pre-syncopal symptoms persisted. During hospitalisation, review of remote telemetry demonstrated intermittent episodes of reported atrial flutter (300/minute) with saw-toothed P waves (Fig 2). Her haemodynamics remained stable, and the patient denied any symptoms during the reported arrhythmia. On evaluation, she was playing her portable media device, an off-brand compact disc player, close to her remote telemetry device (Philips IntelliVue TRx/TRx^{+} Transceivers, Philips, Andover, MA, United States of America). This interfered with the transmission and an organised abnormal rhythm resembling atrial flutter was recorded.

Interference with pacemakers due to portable media devices initially received media attention in 2007. Atrial flutter due to electrical interference has been previously described during continuous veno-venous haemofiltration.[1] Electronic interference is often seen as high-frequency noise on the recorded electrocardiogram channel. In our case, instead of a poor or noisy signal, the use of a portable media device resulted in a recording of artefactual atrial flutter.

As health-care professionals, we use portable electronic devices daily in patient care areas. Although manufacturers test these devices for interference, as technology evolves, there may be a need to re-assess the risk of electronic interference; however, the gold standard continues to be clinical re-assessment of the patient in the face of a potential arrhythmia.

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Conflicts of Interest

None.

Reference

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