

Ball AK, Clarke CE (2006) Idiopathic intracranial hypertension. *Lancet Neurol* 5(5): 433–442. [https://doi.org/10.1016/S1474-4422\(06\)70442-2](https://doi.org/10.1016/S1474-4422(06)70442-2)

Mushet GR (1977) Pseudotumor and nitrofurantoin therapy. *Arch Neurol* 34(4): 257. <https://doi.org/10.1001/archneur.1977.00500160071019>

Pringle Ho H, O'Sullivan E, Soper C (2008) Reversible bilateral optic disc swelling in a renal patient treated with nitrofurantoin. *NDT Plus* 1(5): 344–345. <https://doi.org/10.1093/ndtplus/sfn045>

Sharma DB, James A (1974) Letter: benign intracranial hypertension associated with nitrofurantoin therapy. *BMJ* iv(5947): 771. <https://doi.org/10.1136/bmj.4.5947.771-c>

LEARNING POINTS

- Nitrofurantoin, among other medications, can cause raised intracranial pressure. Clinical features include headache, pulsatile tinnitus, transient visual obscurations and visual loss.
- This case demonstrates that the effects of nitrofurantoin can occur rapidly and may persist even after cessation of the medication.
- Taking a full drug history is imperative in patients presenting with headache and should include recently stopped medication.
- A lumbar puncture is both diagnostic and therapeutic in patients suspected of having idiopathic intracranial hypertension.
- Follow up in the eye department is required to ensure there are no ongoing effects which may necessitate a course of acetazolamide.

Images in Medicine

Ventricular bigemini or something less common?

A 55-year-old man was admitted with heart failure. He had undergone a heterotopic heart transplant 21 years earlier. The electrocardiogram shows two independent morphologies for the QRS complex, one from the native heart and a second from the donor heterotopic heart transplant (*Figure 1*).

Heterotopic heart transplantation (which is also known as a 'piggyback' procedure) involves the surgical connection of a donor heart to the recipient's heart in a parallel fashion. The procedure was developed with the advantages that the donor heart is 'shielded' from refractory pulmonary hypertension and that it helps to compensate for significant donor–recipient size mismatch.

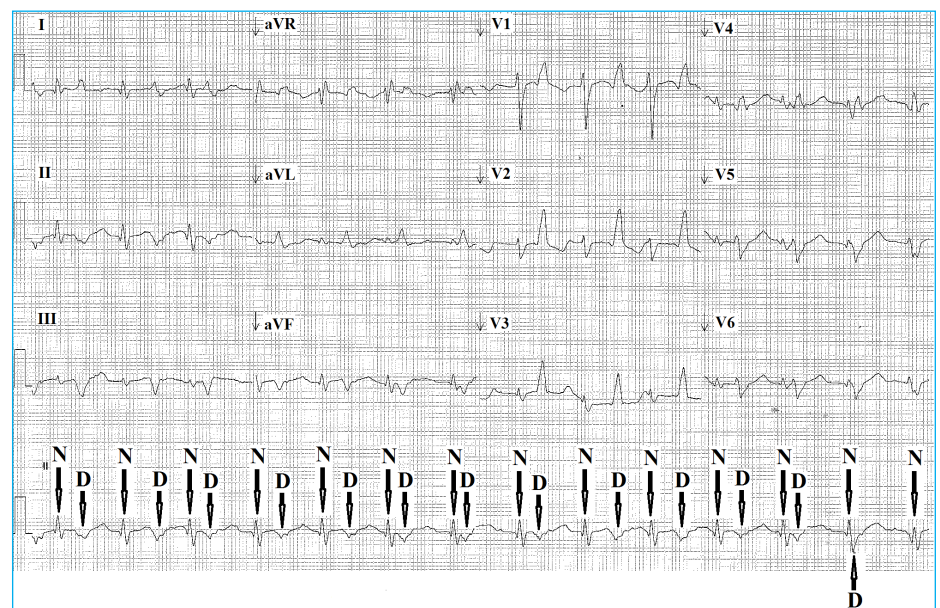
Further advantage derives from the native heart remaining 'viable' in the event of acute graft dysfunction with the native heart assisting the donor heart through

the post-ischaemic recovery period. This advantage also applies in the event of severe graft rejection and malignant ventricular arrhythmias of the native heart. In effect, the native heart maintains the right circulation, often in the presence of significant pulmonary vascular resistance and pulmonary hypertension, while the donor heterotopic heart functions as a biological left ventricular assist device.

Heterotopic transplantation is far less common than the more conventional orthotopic procedure, being performed in around 0.3–0.4% of heart transplantations (Jahanyar et al, 2014). [BJHM](#)

Jahanyar J, Koerner MM, Ghodsizad A, Loebe M, Noon GP (2014) Heterotopic heart transplantation: The United States experience. *Heart Surg Forum* 17(3): E132–E140. <https://doi.org/10.1532/HSF98.2014328>

Figure 1. 12-lead electrocardiogram showing two alternating, and mutually independent, morphologies for the QRS complex. D = QRS from the heterotopic donor heart; N = QRS from the native heart.



Dr Simon Dubrey, Consultant Cardiologist, Department of Cardiology, Hillingdon Hospital, Uxbridge, Middlesex UB8 3NN

Dr Georgios Karagiannis, Consultant Cardiologist, Department of Cardiology, Hillingdon Hospital, Uxbridge, Middlesex

Correspondence to: Dr S Dubrey (simon.dubrey@thh.nhs.uk)