LETTERS TO THE EDITOR

Circadian variation of left ventricular diastolic function in healthy people

Sir,—In their study of healthy people, Voutilainen et al found a nocturnal decrease and a daytime increase in the rate of left ventricular relaxation, which they tentatively attributed to sympathoadrenal activity.¹ Neurobiological features are suggested by reports that link dysregulation of brainstem and blood pressure control and cardiovascular reactivity in challenging tasks with dopamine abnormalities lateralised to the right hemisphere. This hypothesis was supported by the importance of dopamine in the control of wakefulness manifested by a reduction of reaction time and gap frequency, optimal response organisation at intermediate dopamine tone in a medial-frontal-striatal activation system, and inhibition of the right hemisphere promoting left-hemisphere dominance associated with cardiac arrhythmia and vasocostriction.² This might prompt a multidisciplinary approach involving neuropharmacology and cardiovascular physiology³ in evaluating the pathophysiological importance of diurnal changes and the immediate course of speech induced ischaemia.⁴ This method is supported by the correlation of the frequency and duration of speech hesitancy pauses with a s fidxfold increase in the prevalence and incidence of coronary heart disease and mood, respectively, which reflect properties of neuronal activity and firing, and by the correlation of anxiety with the s fidxfold increase in fatal coronary heart death, in particular, sudden cardiac death. It is also supported by the reduction in blood pressure associated with longer, less recurrent pauses⁵ that is predictive of a response to neuropharmacological intervention,⁶ and by the association of pause rate and variability in pause duration with the left and right hemisphere, respectively⁷—hence the need to tailor interventions to asymmetrical brain functions.

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Effect of percutaneous fenestration of the atrial septum on protein-losing enteropathy after the Fontan operation

Sir,—We read with interest the paper by Mertens et al.¹ They reported that in patients who had a fenestration as a result of the Fontan operation, fenestration of the interatrial septum should be considered before proceeding to Fontan take-down or heart transplantation. We recently treated a boy with hypoplastic left heart syndrome who had a Norwood operation as a neonate and a hemi-Fontan operation at the age of 9 months. The Fontan (TCPC) operation was completed when he was one year old and he was discharged on 57th postoperative day. The patient had protein-losing enteropathy which was resistant to medical treatment and finally we decided to construct a percutaneous fenestration of the interatrial septum made with a Gore-tex graft. A 6 French long sheath was introduced into the intra-atrial venous chamber from internal carotid vein, a Brockenbrough needle was introduced through the long sheath. A Blalock-Park blade catheter and 10 mm balloon catheter were introduced and a 10 mm diameter hole was made. Low cardiac output improved immediately. Transophageal echocardiography immediately after the procedure showed 7.7 mm diameter hole with significant right-to-left shunt in the Gore-tex baffle. The patient looked well and ascites and pleural effusion disappeared. However, the pleural effusion and ascites gradually returned within three weeks. Because he showed clinical signs of severe low cardiac output we decided on a Fontan take-down 41 days after the transcatheter fenestration. The patient died from multi-organ failure three days after the take-down operation. At operation we found that the fenestration in the Gore-tex graft had closed. The Gore-tex graft had thickened up to 2 mm and the hole was completely closed and covered by endocardium.

Mertens et al ¹ reported successful treatment of a patient whose native interatrial septum was fenestriated by means of a Brockenbrough needle. Our case suggested that early closure of the fenestrated hole in the Gore-tex baffle is likely.

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This letter was shown to the authors, who reply as follows:

Sir,—We read with interest the case described by Satomi et al in which they confirmed the effectiveness of a secondary fenestration as a treatment for protein-losing enteropathy (PLE) after Fontan operation. We share their experience of seeing a significant haemodynamic and clinical improvement in patients immediately after the fenestration was created, and similar experience with cases we are aware of in other centres where this technique has been applied. Satomi et al observed a strong tendency for the percutaneous fenestration to close. The three fenestrations we created in Fontan patients, all became considerably
Coronary Palmaz-Schatz stent implantation in acute myocardial infarction

Sir,—Neumann et al are to be applauded for reporting that coronary stenting is an effective safe adjunct to direct percutaneous transluminal coronary angioplasty (PTCA) for acute myocardial infarction.1 This finding challenges the previously held view that this was technically feasible.2 Meanwhile stenting of an atrial fenestration has been performed in another centre with a good clinical result (Dr De Giovanni, Birmingham; personal communication).

We consider creating a percutaneous fenestration as a temporary treatment in Fontan patients with PLE who have no treatable cause for systemic venous hypertension (conduit stenosis, coronary artery stenosis, arrhythmia, ventricular failure) and when conventional medical treatment (diuretics, steroids) is ineffective. It does not appear to offer a long-lasting solution but buys time to improve the patient’s general condition before Fontan take-down or heart transplantation is performed.

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