LETTERS TO THE EDITOR

- *The British Heart Journal welcomes letters commenting on papers that it has published within the past six months.*
- *All letters must be typed with double spacing and signed by all authors.*
- *No letter should be more than 600 words.*
- *In general, no letter should contain more than six references (also typed with double spacing).*

Tissue plasminogen activator (alteplase) treatment for femoral artery thrombosis after cardiac catheterisation in infants and children

SIR—Zenz *et al* described the efficacy of fibrinolytic therapy with tissue plasminogen activator in 17 consecutive infants and children with femoral artery thrombosis after cardiac catheterisation.[1] They gave 0·5 mg/kg/h continuously through a peripheral vein for the first hour followed by 0·25 mg/kg/h till clot lysis occurred or treatment had to be stopped because of bleeding complications. With this dosage clot lysis was complete in 16 patients within 4–11 hours after the start of treatment. One patient had only partial lysis. Bleeding complications were seen in nine patients. These were restricted to the arterial puncture site, except for one patient who showed mild epistaxis. Three patients had to be treated with packed erythrocytes.

We used systemic recombinant tissue plasminogen activator (rt-PA) to treat femoral artery thrombosis in six children (aged 1 year 2 months to 5 years 5 months) after cardiac catheterisation. An initial dose of 0·5 mg/kg was given as a slow bolus injection over 30 min followed by a continuous infusion of 0·5 mg/kg/day. This thrombolytic therapy was started after 2 days of unsuccessful heparin treatment in four infants and after 3 and 6 days respectively in the other two patients.

The five children in whom rt-PA treatment was started in the first 3 days after the thrombotic event improved within the first 6 hours and clot dissolution was complete within 7—72 hours. The patient in whom rt-PA treatment was started 6 days after cardiac catheterisation showed only slight clinical improvement after 24 hours of thrombolytic therapy. The dose was increased to 1 mg/kg/day for another 6 days, resulting in complete thrombolysis. In this patient fibrinogen decreased from 3·62 g/l to 2·54 g/l. The other children had no significant change in fibrinogen concentration during and after thrombolytic therapy that indicated systemic fibrinolytic activation. None of our patients had bleeding complications.

We think that the treatment time reported by Zenz *et al* was shorter because the dose was higher and treatment was started after 24 hours of unsuccessful treatment with heparin. They commented that further investigations with lower doses of tissue plasminogen activator are needed because bleeding complications were common in their study.

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1 Zenz W, Muntean W, Beitzke A, Zobel G, Riccabona M, Gamillscheg A. Tissue plasminogen activator (alteplase) treatment for femoral artery thrombosis after cardiac catheterisation in infants and children. *Br Heart J* 1993;70:382–5.

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

SIR—Ries and colleagues describe the successful treatment of femoral artery thrombosis in six children after cardiac catheterisation with recombinant tissue plasminogen activator (rt-PA) with 0·5 mg/kg as a bolus injection over 30 minutes followed by a continuous infusion of 0·5 mg/kg/day (that is, 0·02 mg/kg/h). Lysis took up to 7 days. They suggest that doses of rt-PA lower than that used in our study (0·5 mg/kg for one hour followed by 0·25 mg/kg/h) may be as effective but less likely to be complicated by serious bleeding.[1]

The dosage studies that we mentioned in our paper are underway. So far the preliminary results of another prospective trial of rt-PA (0·25 mg/kg/h for one hour followed by 0·1 mg/kg/h) in children with femoral artery thrombosis after cardiac catheterisation look promising. In 10 out of 11 children clot lysis was complete after 6–48 hours. Bleeding complications were seen in only one patient.

We believe, if these results are confirmed when the study is complete, that in children a short duration of lysis with a relatively high dose of rt-PA that is accompanied by an acceptably small incidence of bleeding may be better than a very long lysis time. This would reduce the complications of a diagnostic procedure.

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1 Zenz W, Muntean W, Beitzke A, Zobel G, Riccabona M, Gamillscheg A. Tissue plasminogen activator (alteplase) treatment for femoral artery thrombosis after cardiac catheterisation in infants and children. *Br Heart J* 1993;70:382–5.

BRITISH CARDIAC SOCIETY NEWSLETTER

The number of patients with heart failure is increasing. Until recently most were treated by general practitioners and general physicians. Increasing awareness of the inadequacy of diagnosis by clinical means alone and the increasing effectiveness and complexity of treatment are placing additional demands on cardiologists and stimulating the development of shared care between the cardiologist and general practitioner.

At the Berlin Congress, the European Society of Cardiology looks set to recognise formally the working group on heart failure. and guidelines for diagnosis and treatment are well under way. The British Cardiac Society too has recognised the importance of heart failure and has set up a working group with the Royal College of Physicians of London to draw up guidelines for the management of heart failure in adults. This working group will liaise closely with the European Society working group on heart failure.

On a different topic: the Cardiac Society has recently been informed by Dr Meg Weir of the Department of Health, Wellington House, 133–155 Waterloo Road, London SE1 8UG that the Chief Medical Officer has launched an Educational Training Pack for hospital doctors called "HIV and AIDS—The Issues". This is designed for non-specialist doctors and covers ethical, social, and legal issues surrounding the care and management of patients with HIV and AIDS. The pack consists of 10 modules complete with acetates as an aid to teaching.

British Pacing and Electrophysiology Group

Anthony Nathan writes: "The British Pacing and Electrophysiology Group continues to be active in several areas. In July an excellent annual general meeting was held, with updates on published reports on tachycardias and bradycardias, a quiz, a mini symposium on atrial fibrillation, and a guest lecture from Professor Lukas Kappenberger on pacing for hypertrophic cardiomyopathy.

The national database for both pacemakers and defibrillators continues to be refined and a new computerised version of the database that uses *Windows* should be released shortly. We encourage all implanters of pacemaker defibrillators to register patients and their devices; registration is particularly useful for tracking any recalls, as has been shown recently in some well publicised cases. Many centres that are not registering devices but would like to do so should get in touch with me.

BPEG is playing a major part in the British Cardiac Society/Royal College of Physicians Guidelines for Patient Management. Workshops will be held on