first dose of steroid. There has been this same surprising omission in most of the otherwise well-controlled studies reported in the literature, the highly significant interval being seldom mentioned, rarely considered, and never stressed. Yet timing is the most important factor in achieving success in the treatment of stroke so that in every case the aim must be to cut the interval to minutes from the hours and days that it is at present. Unfortunately, until cerebral stroke is regarded as an acute medical emergency comparable with coronary thrombosis, with clearcut first aid, the clinical approach will continue to be leisurely.

It is customary to regard the motor cells of a hemiplegic patient as having been destroyed by stroke, but this would clearly be impossible if the paralysis were to clear. The explanation of a recovered stroke must be that the motor cells were temporarily non-functioning. Some strokes do cause immediate untreatable neuronal destruction, but the majority present the gradual picture of a stroke in evolution brought about by an underlying process. This consists of progressive arterial flow failure, anoxia, and oedema which so involve the neurones that they become functionless though they are, for a while, still viable. Immediate treatment in this early stage may restore normal flow and with this a return of neuronal function.

Experience under intensive-care conditions shows that immediate dexamethasone is of value in the treatment of strokes which start in hospital. It is important to use large doses of dexamethasone, the initial dose being at least 10 mg intravenously and then continuing with 4 mg six-hourly for three days. Rubinstein¹ first reported the importance of giving steroid early after cerebral stroke. Two of his patients were remarkable. They were unconscious hemiplegics who were given intravenous steroid within four hours of the commencement of the strokes. They recovered rapidly and six months later were both free of any neurological deficit.

At the present time the only therapeutic first aid available for acute stroke is a large dose of steroid. Dexamethasone is safe and if given immediately after the onset, before the patient is sent to hospital, is often effective. The current practice of giving too little dexamethasone too late will continue to disappoint.

GERALD PARSONS-SMITH

Bletchingley, Surrey

¹ Rubinstein, M. K., *Journal of Nervous and Mental Disease*, 1965, **141**, 291.

SIR,—The article on this subject by Dr Graham Mulley and others (7 October, p 994) contains a type II statistical error. Because they failed to find statistical significance in the difference in mortality rates between the treated and placebo groups the authors conclude that there *was* no significant difference. Their sample was too small for the conclusion. Had the ratio of mortality rates been maintained, one-tailed significance ($P_x=0.05$) would have been reached when each group totalled 104 and two-tailed significance ($P_x=0.025$) would have been reached when each group totalled 148. On the other hand to be 95% certain that there was *no* 10% difference between the two groups would require 417 members per group for one-tailed significance and 500 members per group for two-tailed significance.

A similar error is to be found in the article by Dr K B Thomas on consultation time in general practice (7 October, p 1000).

To demonstrate negative findings is not equivalent to failure to demonstrate positive findings. Feinstein¹ has published a review of this subject including the details of the calculations for sample size determination.

RONALD A BLATTEL

Ottawa, Ontario

¹ Feinstein, A. R., *Clinical Pharmacology and Therapeutics*, 1975, **18**, 491.

Treating accidental hypothermia

SIR,—In your leading article (18 November, p 1383), while giving an excellent discussion of the subject of accidental hypothermia as a whole, you would appear to us to misunderstand the problem as it usually occurs in young people on the mountains and moors in Britain.

Last winter during the severe weather conditions in Scotland a considerable number of climbers survived whole nights on exposed mountain tops by following the advice to "go to ground" in a sheltered place or snow hole out of the wind in order to conserve their body heat and energy reserves. During the same period in the Peak District a hill walker died in a snowstorm during which, it would appear, he had continued to walk, presumably in an attempt to reach shelter. He had set off for a day's walking with a minimum of food. One of us (RSP) performed the necropsy (approximately 30 h after death), when his blood glucose concentration was reported by the laboratory as 0.0 mmol/l.

It has frequently been observed that "exposure" develops in walkers who have missed their breakfast or restricted their food intake for various reasons. It is now beginning to appear that the majority of exposure hypothermia cases occurring in the British hills are in reality a combination of exhaustion (presumably with low blood glucose) and hypothermia. As the body core temperature drops it is to be expected that the release of glucose and regeneration of glycogen reserves will be greatly slowed, thus setting up a vicious circle. This has been well described by Dr James Ogilvie in the mountaineering press.¹ These findings affect our views on treatment in the mountain rescue service in this area.

We feel that unless he is close to a habitation the victim must stop walking and "go to ground" as soon as the condition is suspected. He should be taken to the nearest sheltered spot and, after putting on all available spare clothing, he should be put into a heavy-gauge polyethylene exposure bag to minimise loss of heat by evaporation from wet clothing. This is to be preferred to removing wet clothing unless a tent is available, as the wind chill when undressed can be very severe even in a sheltered spot. These measures will ensure that all available energy is used for heat production and not for physical exertion. If conscious he should be given glucose or other sugar-containing food. Most of these cases occur several miles from the nearest habitation in rough and steep country. Stretcher evacuation is always slow and gives an uneven ride with the risk of the patient losing more body heat. Because of the need for gentle handling owing to the risk of ventricular fibrillation,

which you mention, in a serious case rapid evacuation for the hot bath treatment is usually precluded. Only when helicopter evacuation direct to a hospital is available could one justify attempting this form of treatment.

We feel that in these severe cases the victims should if possible be allowed to rewarm "on the hill" in sleeping bags or casualty bags in a warm tent until they are fit enough to be carried off the hill or conditions are suitable for helicopter evacuation.

P J ANDREW
Chairman,
Peak District Mountain
Rescue Organisation

R S PARKER
County Pathologist

New Mills via Stockport,
Greater Manchester

¹ Ogilvie, J., *Climber and Rambler*, September and October 1977.

Heart valve replacement in the elderly

SIR,—Mr A H B de Bono and his colleagues (30 September, p 917) are to be congratulated both on a succinct communication and an excellent set of results for valve replacement in the elderly patient. I was very interested to note that in none of the 68 patients was it necessary to combine valve replacement with coronary bypass graft. At the present time cardiologists are being urged to include coronary angiography, a by no means harmless procedure, as part of the investigation of all patients of middle age or over referred for aortic valve replacement, on the grounds that a concomitant coronary graft may improve the short- and long-term results.

I would be interested to know whether coronary angiography played any part in the assessment of the Cambridge patients; in particular were any patients turned down on the grounds of extensive coronary artery disease so demonstrated?

J S WRIGHT

Department of Cardiology,
Victoria Hospital,
Blackpool, Lancs

* * * A copy of this letter was sent to Mr de Bono and his colleagues, whose reply is printed below.—Ed, *BMJ*.

SIR,—Thank you for allowing us to reply to the important issues raised by Dr Wright.

We believe that the necessity for including coronary arteriography as part of the routine assessment of patients with aortic valve disease is not yet proved. Reasons for this include our belief that the coexistence of important coronary disease with symptomatically severe aortic valve disease is uncommon and that there is as yet no evidence that grafting non-critically stenosed vessels in this group of patients improves either symptomatic relief or long-term prognosis. What is known, however, is that operative risk is increased when aortic valve replacement is associated with concomitant coronary bypass grafting.¹

Coronary arteriography played no part in the assessment of the elderly group of patients reported by us. Indeed, we had no facilities for this during the first half of the period covered by our review. Although some patients had symptoms from impaired left ventricular function after operation, none experienced angina postoperatively.