Keighley and others (21 July, p. 147). In this case a patient showing the clinical features of endotoxic shock had a positive blood culture for *Escherichia coli* which became sterile following vigorous antibiotic therapy, but with no apparent clinical improvement. Was this therefore an example of wholesale destruction of Gram-negative bacilli causing a fatal increase of blood endotoxin in a patient already in endotoxic shock? There is some agreement³ that, though antibiotics have reduced mortality from septic shock arising from Gram-positive organisms, the mortality from Gram-negative shock remains at 50%. Perhaps some improvement could follow a more subtle approach to treatment of endotoxic shock by confining antibiotic therapy to bacteriostatic agents until the vasospasm which is such a prominent feature has been brought under control by vasodilator and intravenous therapy, using either massive doses of cortisone or small doses of chlorpromazine.—I am, etc.,

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¹ Andrews, H., personal communication.

² Reilly, J., Compagnon, A., Tournier, P., and Buit, H. du., *Annales de Médecine*, 1954, 55, 5.

³ Spink, W. W., in *Septic Shock in Man*, ed. S. G. Hershey, L. R. M. del Guercio, and R. McConn. Boston, Little Brown, 1971.

Symptomatic Hypomagnesaemia after Parathyroidectomy

SIR,—Dr. C. T. A. Jones and his colleagues (18 August, p. 391) again draw attention to the rare occurrence of symptomatic hypomagnesaemia following parathyroidectomy for primary hyperparathyroidism with bone disease. Moderate but less sustained hypomagnesaemia is also frequent following parathyroidectomy in patients without overt bone disease. The hypomagnesaemia in this group of patients appears to parallel the degree of postoperative hypoparathyroidism.¹ Thus two factors may contribute to postparathyroidectomy hypomagnesaemia—remineralization of bone and transient hypoparathyroidism.

It is now well recognized that hypokalaemia and hyponatraemia do not necessarily reflect potassium and sodium deficiency. Equally, it may well be incorrect to use the terms hypomagnesaemia and magnesium deficiency interchangeably.² Since the body content of magnesium is unlikely to change significantly within a few days of parathyroidectomy, symptoms developing at this time are probably due to hypomagnesaemia rather than magnesium deficiency.

The mechanism of hypocalcaemia secondary to hypomagnesaemia is controversial, and unfortunately the data of Dr. Jones and his colleagues do not shed much light on this problem. Though the serum parathyroid hormone level (3.3 µg/ml, was well above normal at a time when the plasma levels of both calcium and magnesium were depressed postoperatively, it may not be justifiable to conclude that the hypomagnesaemia was the cause of the apparent refractoriness to parathyroid hormone. At this time, in the presence of actively remineralizing bone, hypocalcaemia and a raised parathyroid hormone level might be anticipated regardless of the patient's magnesium status. It would be of particular

interest to document the parathyroid hormone response to magnesium administration in this situation.—I am, etc.,

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¹ Sutton, R. A. L., D.M. (Oxford) Thesis, 1973.

² Sutton, R. A. L., *Journal of the Royal College of Physicians of London*, 1967/1968, 2, 358.

Femoral Artery Complications after Diagnostic Procedures

SIR,—Dr. T. N. Cowie (15 September, p. 588) has rightly stressed the importance of the site of puncture in performing percutaneous femoral artery catheterization. In a study of the effect of the site of puncture¹ we found that when the puncture site was within 0.5 cm of Poupart's ligament significant haemorrhage occurred in 13 of 16 punctures. No haemorrhage was found in 14 punctures made 2 cm or more below the ligament and it was negligible in the remaining two. The explanation of this difference in the incidence of haemorrhage is thought to be, firstly, the greater ease of control of the site when the puncture is made in the femoral canal, and secondly, the greater obliquity of the perforation of the artery when the skin perforation is lower in the thigh.

In controlling haemorrhage following the withdrawal of the catheter the incidence of thrombosis is reduced if the pressure on the artery is sufficient to stop bleeding but not so great as to occlude it. "The minimum pressure necessary to control haemorrhage" should be used.²

Our observations support those of Dr. John Bouhoutsos and Mr. Tom Norris (18 August, p. 396) and those of Dr. Cowie. The common practice of perforating the skin over the site of maximal arterial pulsation is a very bad one.—I am, etc.,

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¹ Verel, D., and Rickards, D. F., *Clinical Radiology* 1973, 24, 62.

² Verel, D., and Grainger, R. G., *Cardiac Catheterization and Angiography*, 2nd edn. Edinburgh, Churchill Livingstone. In press.

Detection of Hypertension in Childhood

SIR,—While reflecting, perhaps, that a diuretic may still be useful in the care of rheumatic heart disease, although it can scarcely be expected to have much effect on a tight mitral valve, we can all share some of Dr. J. F. Gordon's misgivings (15 September, p. 591) about "symptomatic treatment". But in applying this term to the management of essential hypertension in adolescents he reveals a formidable misapprehension of the manner in which such hypertension presents in the young. Not once in a hundred cases is it likely to have been suggested by any kind of symptom. Indeed, it is for this reason that treatment can offer no immediate benefit. Nor is the nebulous promise of a better and a longer life likely to appear very exciting to a vigorous young man of 20 who can scarcely be expected to appreciate that today's pills may well protect him in 30 years' time from the hazards of an alleged disorder that had never, until he learned of it, caused him a moment's discomfort.

But if we look at the whole development of hypertensive disability and death we can see how its course, whatever its aetiology, has been transformed, except in the important matter of occlusive complication,¹ by modern hypotensive therapy. Certainly it has to be admitted that the "complex morbid process", in Dr. Gordon's words, of secondary hypertensive vascular damage "cannot be totally avoided or healed". It is something, nevertheless, that such treatment commonly adds many years to life at every age for which it has so far been possible to make a valid appraisal. Surely, therefore, we can be forgiven for hoping that the same methods applied to the same condition may eventually prove to be of some value, despite obvious drawbacks concerning their application, in adolescents and even in children.—I am, etc.,

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¹ Stewart, I. McD. G., *Lancet*, 1971, 2, 355.

Polyvinyl Chloride T-tubes

SIR,—I was interested to read the letter from Mr. D. J. Bouchier-Hayes (8 September, p. 543) on the subject of polyvinyl chloride (PVC) T-tubes and, in particular, the use of Portex tubes for biliary intubation.

Our own findings are very much in line with those reported—that is, that PVC tubes generally are not suitable for use because of their failure to promote a fistulous track and also because of the associated difficulty in their removal after 10 days. The latter fault is attributable to the "leaching out" of plasticizer from the tube by the action of body fluids and is a gradual process depending upon time and, we believe, individual patients. We have had reports on the one hand complaining of difficulty after only five days and on the other of trouble-free procedures after 10 days.

Our tubes have been described as "too inert" for this procedure, and some users have preferred the reaction they obtained from rubber tubes. It is ironic in this situation that your correspondent should have gone on to consider the aspects of toxicity, since it was work on this subject—undertaken several years ago now—which enabled us to produce such "inert" materials and which now appear to be unsuitable for T-tube manufacture. Though many people continue to use our PVC tubes, technical considerations point to further work being necessary in material formulation, and until this has been undertaken we have taken the decision to cease production of these tubes.

Finally, I would applaud Mr. Bouchier-Hayes's contention concerning the matching of standards to end use. Much useful work has been and continues to be done, and British Standards Committee SGMH/18 is particularly concerned at present with cardiovascular and neurosurgical implants. I might, perhaps, point out that tracheal stenosis is more popularly believed to be associated with high intra-cuff pressures and not the leaching of constituent materials, and our own work supports this view.—I am, etc.,

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