calcium. Likewise, some years after the osteomalacia has been adequately treated, the secondary hyperparathyroidism may progress to the tertiary form—an autonomous functioning parathyroid tumour.

Such an example has been reported by Ludwig *et al.*¹ The patient, a 74-year-old female, had developed osteomalacia induced by the prolonged intake of large doses of aluminium hydroxide and cathartics. The condition responded to treatment and to cessation of self-medication, periodic interim studies revealing normal values of the serum calcium, phosphorus, and alkaline phosphatase. Four years after the diagnosis of osteomalacia her health again deteriorated; investigations now indicated a hyperparathyroid state and subsequently a parathyroid adenoma was removed.—I am, etc.,

J. SHAFAR.

Burnley General Hospital,
Burnley, Lancs.

REFERENCE

- ¹ Ludwig, G. D., Kyle, G. C., and de Blancho, M., *American Journal of Medicine*, 1967, **43**, 136.

Tests of Vestibular Function

SIR,—Dr. Margaret R. Dix in her admirable account of modern tests of vestibular function (9 August, p. 317) quotes in her opening paragraph the observation by others of a "slight decline in spirits" experienced by the majority of physicians on hearing their patient's complaint is of giddiness. She proceeds then to state that the diagnostic tests which she is about to describe should provide a basis for considerable optimism. She gives little attention, however, to the elicitation of the history.

The first stage in the clinical investigation of a patient with the complaint of giddiness is an analysis of the symptoms. This, it is true, requires skill, patience, and self-restraint. Hughlings Jackson's remarks on the subject are pertinent. He says "It may here be remarked that the term 'vertigo' is often used somewhat loosely. I do not take the expression 'giddiness' from a patient's mouth to always mean true giddiness. We have to put down not his name for, but the description he gives of, the sensation he calls giddiness. Unless we take pains to be accurate in our examinations as to the question propounded, our observations will be of little value. The investigator who simply asks leading questions . . . is not accumulating 'facts,' but is 'organizing confusion.' He will make errors enough without adopting a clumsy plan of investigating which renders blundering certain."

When the physician, from his analysis of the symptoms, has concluded that the patient's complaint is that of true vertigo, meaning that the sensations described are characteristic of a disorder of the vestibular end organs or their central connexions, then, but not until then, will it be worth his while to proceed to the tests described by Dr. Dix.—I am, etc.,

C. P. SYMONDS.

Ham, Wilts.

REFERENCE

- ¹ *Selected Writings of John Hughlings Jackson*, edited by J. Taylor, vol. 1, p. 309, London, Hodder and Stoughton, 1931.

How Much Blood?

SIR,—The recent case of a liver transplant which apparently received 70 pints of blood,¹ all to no avail, raises a question which must be faced.

An eminent surgeon recently announced that 40–50 pints of blood for an operation "was not unusual."

I have had many arguments with my surgical colleagues on this score, and what I do not seem to be able to put over is that blood donation must of necessity be a voluntary matter. One is constantly going on one's bended knees to obtain donors, and such cases as the one quoted above do not in my opinion seem likely to stimulate more volunteers.

It is even more serious if the blood required is Rhesus-negative or of uncommon groups, such as AB and B. When it is necessary to supply Rh-negative blood it does not seem to be realized that only 7½% of the population are of this group. How, therefore, can any blood bank be expected to hold permanently a stock of 50 pints of this? The same applies to group A Rh-negative. Statistically some 700 donors would have to be bled to get 50 pints of O or A Rh-negative blood respectively.

If some large quantities of blood are really necessary at certain operations, the following points would seem to be of paramount importance: Rhesus-positive blood could be used more widely for males—provided there is no history of previous transfusion. And more use could be made of blood frozen by reliable methods. Too often clinicians are loath to use this, as they are not convinced of its efficacy. This is of no foundation, and moreover frozen blood can be kept for a considerable time, allowing a blood bank to stockpile.

It would appear that at present many surgeons wish to have it both ways. Such an attitude can not only endanger the whole organization of voluntary blood donation but may also put in peril the supply of blood to accident cases and for Rhesus baby exchange transfusions.—I am, etc.,

LENOX MACFARLANE.

Farnham, Surrey.

REFERENCES

- ¹ *Guardian*, 8 August 1969.
- ² *Daily Telegraph*, 6 August 1969.

Fibrin Degradation Products and Eclampsia

SIR,—Dr. J. Bonnar and others (19 July, p. 137) attach an aetiological significance to fibrin thrombi in eclampsia and base their view on the deduction of McKay,¹ who has found that the glomerular capillaries contained fibrin in eclampsia. Infarcted glomeruli have been found after cortical renal ischaemia produced by stimulation of the renal nerve,² which indicates that they are a by-product of renal vasospasm. Renal cortical ischaemia has been noted to accompany the resistance to stretch of the uterus in all animals, during postpartum contractions, and when the myometrium is distended, as by concealed accidental haemorrhage. From this it would reasonably follow that the level of fibrin degradation products in the serum

would be raised, as reported by Dr. Bonnar and colleagues. These are produced by placental separation additionally.

If fibrin thrombi are held to occur in the cerebral circulation and to be responsible for eclamptic fits, they should have prolonged effects. Under such circumstances their occurrence would explain "status eclampticus" only, which is a rarity. The onset of hypertensive encephalopathy,³ however, is dramatic when an animal whose single kidney's blood supply is temporarily occluded is given saline to drink, and cessation on removal of the occlusion is equally dramatic. This explanation correlates completely with the eclamptic state, and does not depend on intravascular coagulation to explain it.

Irving⁴ states that "sustained sympatho-adrenal hyperactivity is the essential cause of irreversible shock." Such activity is also noted with hypovolaemic shock in concealed accidental haemorrhage, when the utero-renal reflex plays a considerable part in its production. Here again a sympathetic aetiology is involved.

Sympathetic vasospasm is the ultimate aetiological factor, and fibrin thrombi, which are limited in number, are a side-effect. The importance that Bonnar *et al.* attach to them is not therefore acceptable.—I am, etc.,

Worthing, Sussex.

JOHN SOPHIAN.

REFERENCES

- ¹ McKay, D. G., in *Coagulation Disorders in Obstetrics*, edited by J. C. de Neef and G. J. H. den Otlander, 1966. Amsterdam, Excerpta Medica Foundation.
- ² Franklin, K. J., *Lancet*, 1952, **2**, 1141.
- ³ Byrom, F. B., *Lancet*, 1954, **2**, 201.
- ⁴ Irving, M. H., Varga, D., Gillett, D. J., and Halmagyi, D. F. J., *British Journal of Surgery*, 1968, **56**, 780.

Euthanasia

SIR,—I would like to support the plea of Dr. K. H. Southall (9 August, p. 359). In these days of small families with limited incomes, senior citizens face the prospect of becoming a detrimental burden on younger generations should senescence prove prolonged and incapacitating. To those who have regulated their lives as far as possible there is only dread in the realization that becoming a physical and financial drain on those who care will undo much of the good achieved in having worked to enable them to be healthy.

We are encouraged to make disposition of our possessions; exhorted to give blood when well and donate organs if fatally injured; permitted to refuse operation, commit suicide, and obtain cremation. Why can we not will our own bodies when life eventually loses all meaning? This is not euthanasia or the loneliness of suicide, but rather the final venture in the service of the nation.

Our condition could be assessed by a member of each of the professions concerned—spiritual, medical, and legal—and when it was considered beyond reasonable doubt that we had become a useless liability to those who care for us a service to end our days in a dignified and economic manner would be a humane act.

If we knew that our wills in this respect were lawful those of us who wish for this service could say so, and pass our declining years in some peace of mind.—I am, etc.,

GWEN M. LANGHAM-HOBART.

Bristol, Glos.