epileptics with elevated serum alkaline phosphatase showed a rise in level of the bone isoenzyme. Apparently Mr. Rowe’s opinion—probably that there has undergone some change over the past three years.

It is correct that our photon absorbometry method cannot tell whether a low B.M.C. is due to osteoporosis or osteomalacia but it is also correct that patients with osteoporosis do not respond to treatment with 2,000 IU of vitamin D3 daily for three months. Our 116 epileptics on this treatment showed a highly significant increase in B.M.C. growth. In 110 patients showed unchanged B.M.C. values. Mr. Rowe and Dr. Stamp will have a hard task in convincing the public—or us—that epileptics on anticonvulsants do not show signs of vitamin D anticiency. In trying to do this they seem to overlook some essential facts which may not fit their preconceived opinions but which nevertheless remain factual.

We have studied with interest the results of classical calcium balance studies in three patients reported by Mr. Rowe and Dr. Stamp (together with other authors) in two articles. Nevertheless it is correct that patients with osteoporosis was that calcium balance was studied in three consecutive periods: a control period, a period on hormone D3, and a period on vitamin D3 (25-OH-D3). If the effects of each vitamin had been studied for three months in these three patients it would have been relevant to compare the findings with our results in 116 patients.

Whether or not a dose of 2,000 IU of vitamin D3 while the control group of three patients was that calcium balance was studied in three consecutive periods: a control period, a period on hormone D3, and a period on vitamin D3 (25-OH-D3). If the effects of each vitamin had been studied for three months in the three patients it would have been relevant to compare the findings with our results in 116 patients.

We wonder why Mr. Rowe and Dr. Stamp remained silent when, in 1972, an authoritative British journal stated editorially that “though [anticonvulsant osteomalacia] may be only at a biochemical level, sound medical practice is to offer prophylactic treatment before frank bone disease develops.” This statement challenged us, but we should like to stress once more, as we did in our article, that it was not possible from our results to tell whether epileptics should be treated prophylactically with vitamin D.

Our article supports a number of previous publications and demonstrates a definite effect of vitamin D. We are therefore somewhat bewildered that Mr. Rowe and Dr. Stamp do not see the point of a possible benefit of prophylactic vitamin D treatment in such patients, as also proposed by other authors.1,2 We are, etc.,

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1 Richens, A. and Rowe, D. J. F., British Medical Journal, 1970, 4, 73.
4 Lancer, 1972, 2, 805.

Metastatic Processes

San—Your reviewer of Chemotherapy of Cancer Dissemination and Metastasis (4 May, p. 286) asks, “Why does primary melanoma of the eye metastasize to the liver, breast cancer to the ovary, and Hodgkin’s disease to the spleen?” It suggests that malignant cells metastasize to particular sites because they are able to obtain in those situations elements (such as amino-acids or hormones) on which they are dependent for their continued growth and survival. The process appears to be analogous to chemotropism, “an orienting response to a chemical stimulus, as in a plant root.”

On this hypothesis primary melanoma of the eye metastasizes to the liver, “the greatest chemical factor of the body,” to obtain the amino-acid tyrosine, the parent substance of melanin. It may be noted that in the case of melanocytic carcinomas of the eye we did not note that the reticuloendothelial cells. These metastasize to the spleen, which has the largest aggregation in the body in the reticuloendothelial system, possibly to obtain a hormone (reticulin M) produced by this system.—I am, etc.,

M. Cowan
London S.E.6

Serological Tests for Ameboiasis

San—I was surprised to see the letter (6 April, p. 39) from Dr. F. Scott minimizing the value of serology in ameboiasis. It would be a pity if, as a result of his letter, the use of this valuable tool was restricted. The number of tests we in Durban have carried out now runs into several tens of thousands, and the enthusiasm of our clinicians is indicative of the confidence they have in the test.

Using the micro-gel-diffusion or the latex tests (which avoid the difficulty of interpretation of titre) we know that many cyst-passers, especially from temperate zones, show no antibodies. We interpret this as meaning that the commercial Entamoeba histolytica responsible for the cysts has not made the parenteral contact necessary for the stimulation of antibodies. On the other hand when patients are passing haematophagous trophozoites the proportion showing antibodies at some time is well over 95%. In proved amoebic liver abscess the figure is over 99% These are impressive figures for any serological test. In infants the results are more erratic—possibly the appropriate mechanisms have not been established. The test cannot be blamed for the negative result.

The persistence of antibodies might be regarded as a nuisance, particularly in endemic areas, limiting the tests to exclusion of invasive amebiosis. However, serology-epidemiology based on this fact is proving most useful. When one appreciates the many pitfalls in the morphological identification of E. histolytica and the lack of laboratories able to appreciate these the value of serology in ameboiasis is self-evident.

The workers at Loon Lake are to be congratulated on their operation, which has high-lighted the association between invasive amebiosis and density of human population in the absence of adequate hygiene.—I am, etc.,

R. Elsdon-Dew
Ameboiasis Research Unit, Institute for Parasitology, Durban, South Africa

Drugs for Gastric Ulceration

San—Unlike Dr. A. B. S. Mitchell (1 June, p. 501) I thought your leading article (27 April, p. 186) gave an excellent survey and I entirely agreed with its conclusion that carbonoxolone seems still to be the drug of choice. It seems to work by improving the defence mechanisms of the stomach by stimulating mucus production and by lengthening the life cycle of the epithelial cells, both facilitating the repair process.

We have associated with the first studies on this drug in this country and have followed closely the world literature ever since. Its beneficial effects have been repeatedly confirmed in many countries. It is clear that this treatment enables gastric ulcers to be treated in the ambulatory patient—a very considerable economic advantage. Like other modern effective drugs such as corticosteroids, carbonoxolone has to be used with some care and discretion and a few simple precautions observed. Used in this way it is an effective and safe treatment.—I am, etc.,

F. Avery Jones
Central Middlesex Hospital, London N.W.1

Studies of Resistance to Long-acting Adrenergic Beta-stimulators in Asthmatic Patients

San—Since the report of Conolly and others1 the development of resistance to long-acting adrenergic beta-stimulators has been much discussed. We have begun a study to see whether one develops in patients in the bronchial tree and skeletal muscle during oral terbutaline treatment of patients with chronic obstructive bronchitis who have not previously taken bronchodilating drugs. We use the effect on forced expired volume, heart rate and blood pressure, and muscular tremor of increasing intravenous doses of isoprenaline. After this treatment was started with terbutaline 5 mg thrice daily orally. So far we have repeated the observations of the effect of intravenous isoprenaline in increasing dosage after one, two, and three months’ terbutaline treatment. The figure shows the mean values in eight patients. The dosage of isoprenaline was so selected that the highest dose caused nearly maximum bronchodilation. All tests were performed in the morning after the patient had been without terbutaline for 10 hours.

The higher basal value in the morning during terbutaline treatment suggests that the patients did not develop resistance to their own adrenaline or noradrenaline. In addition the same maximum daily orally. So far we have repeated the observations of the effect of intravenous isoprenaline in increasing dosage after one, two, and three months’ terbutaline treatment. The figure shows the mean values in eight patients. The dosage of isoprenaline was so selected that the highest dose caused nearly maximum bronchodilation. All tests were performed in the morning after the patient had been without terbutaline for 10 hours.

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Before the use of epidural anaesthesia in the management of toxaemia during labour pethidine was used for pain relief. Combined with the anticonvulsant chlorpromazine this sometimes resulted in excessive inhibition of the patient and a tendency to airway obstruction in the absence of stimulation. To assess safety, the airway tests were used in the sleeping patient without simultaneously assessing the level of consciousness. If the patient was only lightly asleep the manoeuvre caused only transient arousal and he quickly dozed off again.

A word of warning is required. The test should be undertaken only by properly trained medical personnel as they cannot decide whether it is reasonable to obstruct two or three attempts at inspiration in any given patient. Furthermore, we have by this test on one occasion provoked vomiting.

We are, etc.,
M. E. TUNSTALL
M. EDITH BEVERIDGE
Aberdeen Maternity Hospital and
Royal Aberdeen Children's Hospital, Aberdeen

Musical Bumps

SR,-The description by Mr. J. M. Thomas (1 June, p. 504) of the way in which a classical guitarist is held by the player is, of course, accurate but it applies only to male players. The way in which a classical guitarist is held by a female player is somewhat different: the right handed female player sits with her legs crossed and the instrument rests on her knees. The top edge of the soundbox will then overlie the region of the right nipple. The three patients described by Dr. P. Curtis (27 April, p. 226) were all female.—I am, etc.,
NORMAN P. MELIA
Cardiff

Assessing the Safety of Comatose and Postanaesthetic Patients

SR,-We were very interested in the method of assessment of the degree of airway security described by Drs. A. W. Grogono and A. R. de C. Deacock in patients with impaired consciousness (20 April, p. 174). For the past eight years we have regularly used a three-stage test of airway security. The method was originally devised for patients recovering from 4-hydroxybutyrate narcosis, a condition in which there is a propensity to maintain a clear airway during unconsciousness. This contrasts with what happens following the administration of narcotic analgesics as part of an anaesthetic sequence, as Drs. Grogono and Deacock quite rightly indicate: here a potentially conscious patient tends to lose his airway when not being stimulated.

In our test stage I consists of pinching the nostrils to occlude the airway; stage II involves closing the nose as in stage I and simultaneously pressing the jaw backwards exactly as described by Drs. Grogono and Deacock; and stage III the nose is closed and the lips are held together. Graduated assessment of the degree of unconsciousness is possible according to whether the patient attempts to open his mouth (stage I) or turns his head to the side (stages II and III). If he responds satisfactorily he is classified as being reasonably safe.

Douglas Millar
Colchester

Vein Stripping

SR,-Dr. D. Freedman rightly asks (18 May, p. 387) whether, apart from the removal of small isolated segments of abnormal veins, stripping of the long saphenous vein should ever be done. I was never an enthusiastic vein-stripper and only regret that I was ever persuaded to undertake this procedure at all widely in the past. However, I agree that a stripper can be of value in removing short lengths of vein. Where varicose veins cause symptoms and operation is clearly indicated their eradication may necessitate (1) ligation of long and/or short saphenous veins flush with the deep vessels, (2) careful ligation of tributary veins and leaking perforators, and (3) meticulous excision of troublesome varicosities, or various combinations of these three basic procedures. It is essential that the examination and assessment of these cases should be done by an experienced surgeon. Huge numbers of patients are still far too casually selected for operation by inexperienced doctors, and many operations are ill-planned and badly executed. The use of a stripper is a poor substitute for better alternative procedures, and it is a pity to spoil an otherwise good operation by tearing out long lengths of straight and healthy vein.—I am, etc.,
Reginald S. Murley
Radlett, Herts

Vein Stripping

Nils Svedmyr
Sven Larsson
Gunnar Thiringer

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T.V. Programme on Heart Disease

SR,-The B.B.C. documentary on heart disease on 21 May was disappointing in its lack of specific detail for the viewer to

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