

scopy (12 February, p. 411). During the past 12 months I have anaesthetized 75 patients for either laparoscopy or laparoscopic sterilization, during which carbon dioxide has been used to inflate the peritoneal cavity. Continuous electrocardiographic monitoring has been carried out throughout each procedure and no cardiac arrhythmias have been observed.

All patients are premedicated 1½ hours prior to operation with Pamergan S.P. 100 (pethidine 100 mg, promethazine 50 mg, and hyoscine 0.43 mg) and anaesthesia is induced with methohexitone in a dose of 2 mg/kg body weight to which D-tubocurarine in a dose of 25-30 mg has been added. Intubation using a cuffed Oxford tube is then performed and anaesthesia maintained with nitrous oxide and oxygen 8:5 litres per minute in a semi-closed system with an absorber using intermittent positive pressure respiration with a Commonwealth Industrial Gases auto-hand respirator. Atrophine and neostigmine in doses of 1.2 mg and 2.5 mg respectively are administered routinely to all patients at the conclusion of the operation.

Under the conditions which exist when laparoscopy is performed—that is, gross distention of the peritoneal cavity and considerable degree of tilting of the table—one is not surprised that some arrhythmias will occur if the patient is subjected to the added trauma of spontaneous respiration without intubation, and I would suggest that cardiac arrhythmias observed are not due to the laparoscopy but are iatrogenic.—I am, etc.,

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Erythropoietin

SIR,—It was with interest that I read your leading article "Erythropoietin" (29 January, p. 263) in which you refer to one of our articles.¹

However, I disagree with the following quotation about the results of these studies: "Such a bioassay has obvious disadvantages, but papers⁴⁻⁶ presented at a conference in Tel Aviv in 1970 showed that search for a satisfactory alternative in vitro method had been unsuccessful." In fact, in the article we stated:¹ "The immunochemical technique is exquisitely sensitive allowing measurement of quantities in the 2 milli immunochemical range. This permits the determination of ESF levels in normal plasma or serum: a procedure which is not routinely possible by bio-assay. As a consequence, investigations of normal or decreased circulating levels of the hormone are possible with the use of hemagglutination inhibiting (HAI)."

"The HAI technique is a relatively simple, reproducible method, and an experienced technician in a single day can easily determine the ESF units in two dilutions of 100 test materials. By contrast only 20 to 30 determinations can be carried out in a week-long bio-assay. Although many more laboratories need to evaluate the HAI technique for the assay of ESF, we think that the method fulfills the criteria for the ideal assay as outlined by Jacobson *et al.*"² We certainly do not feel that our efforts have been unsuccessful. The HAI method is

now being used in other laboratories for the routine testing of clinical samples.

It may be of interest that we have extended our studies and developed an in vitro screening test for erythropoietin. The results were presented at the International Conference on Erythropoiesis last year (in press). It would seem that a reasonably simple in vitro method of estimating erythropoietin is available. Thus, the exploration of the role of erythropoietin in many conditions can most certainly proceed.—I am, etc.,

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¹ Lange, R. D., McDonald, T. P., Jordan, T. A., Mitchell, T. J., and Kretchmar, A. L., *Israel Journal of Medical Sciences*, 1971, 7, 861.

² Jacobson, L. O., Gurney, C. W., and Goldwasser, E., *Advances in Internal Medicine*, 1960, 10, 297.

Methotrexate Hepatotoxicity in Psoriasis

SIR,—Dr. M. G. C. Dahl and others (11 March, p. 654) suggest that fibrosis of the liver is an invariable consequence of methotrexate when given by mouth in frequent small dosage if sufficiently prolonged. Methotrexate is still the best of available drugs for the very few severe cases that need systemic therapy, and it is important to ascertain the safest schedule. We believe that terms such as invariable are not yet justified, and not even Dahl *et al.* have sufficient evidence to rule out low-dosage oral regimens. We were the first to publish a detailed account of the hepatotoxic effects of methotrexate in live psoriasis patients,¹ but it has not deterred us from continuing to prescribe 2.5 mg methotrexate daily for 6-8 days with 3-7 days' rest. Of our original series we have reinvestigated four patients who have been on this regimen for almost 10 years. This is presumably sufficiently prolonged to fulfil the criteria of Dahl *et al.* The reason why some patients develop cirrhosis and others escape fibrosis must be clarified before frequent small-dosage regimens are blamed. Two patients show no fibrosis, one of whom has an alcohol intake of 6 pints (3.5 l.) of beer per week. Of the other two patients one presented with a full picture of cirrhosis one year ago and the other has histological evidence of cirrhosis.

Four other patients who showed abnormal liver function tests in our original series have been on parenteral methotrexate since that time. In spite of their initial oral low-dosage regimen for over two years their present liver histology shows no fibrosis.—We are, etc.,

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¹ Ryan, T. J., Vickers, H. R., Salem, S. N., Callender, S. T., and Badenoch, J., *British Journal of Dermatology*, 1964, 76, 555.

Pulmonary Disability in Coal Workers' Pneumoconiosis

SIR,—I was surprised that the article on the above subject (18 March, p. 713) did not cite Dr. Anthony Caplan's classical paper "Correlation of Radiological Category with Lung Pathology in Coal-workers

Pneumoconiosis."¹ This publication is pertinent to the present article, and I quote briefly one of its several findings to confirm the relevancy.

Dr. Caplan recorded that all category O cases showed very little evidence of simple pneumoconiosis at necropsy and most category 1 cases showed little evidence of the disease (amounting at the most to moderate numbers of dust foci in 14.8% of cases and sparse numbers of fibrotic modules in 11.1%). The findings of this recent investigation revealed differences as: (1) A few category O cases showed a comparatively substantial degree of pneumoconiosis at necropsy; (2) several category 1 cases had similar pathological findings. Additional quotes from Dr. Caplan's comprehensive paper would emphasize further that its recognition would be only quantum meruit.—I am, etc.,

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¹ Caplan, A., *British Journal of Industrial Medicine*, 1962, 19, 171.

Sustained Relief of Hemiballismus

SIR,—I was interested in Dr. J. Shafar's letter on the sustained relief of hemiballismus by thiopropazate hydrochloride (25 March, p. 806). I have been using thiopropazate hydrochloride in doses of 5 mg twice a day increasing to three times a day for the past 15 months for the relief of hemiballismus with equivocal results.

In Huntington's chorea I have found it of little value. In two cases of hemiballismus following a contralateral lesion of the pyramidal tract there was improvement within seven days. One lady of 85 whose throwing movements of the arm (of wide amplitude) had resulted in considerable traumatic bruising against the restraining cot side of the bed, showed amelioration within 72 hours, and it became possible to feed her orally. To avoid induced parkinsonian syndrome I have kept to a small dosage (5 mg three times a day) and have discontinued the drug after six weeks. I would agree that there has been no effective therapeutic approach to the problem of hemiballismus until last year, when thiopropazate hydrochloride (Dartalan) became available.—I am, etc.,

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Alginate Casting Method for Recording Dermatoglyphs

SIR,—A major drawback of conventional methods for recording dermatoglyphs is the possibility of smudging prints. Hand or foot deformities create additional problems. These difficulties may be overcome by making impressions of the hands or feet in an alginate compound. A rubbery mould is obtained from which plaster-of-Paris casts may be made. The fine details of the epidermal ridges are recorded and distortion of the shape of the hands or feet or of the pattern configurations is avoided. A casting technique using latex materials has already been described,¹ but it is much more expensive than using alginate. Of the many dental-impression alginate samples tested Zelgan gave specially good results.

To make an impression of a hand alginate