

incompetence never exhibit the distressing symptoms or show the gross lesions that are found in patients with incompetence of perforators just above the ankle.

You state that it takes less than an hour to examine both legs by thermography and that this method can be extremely accurate, but you have omitted to state how effective is this method in detecting all incompetent perforators. Mr. K. D. Patil and colleagues (p. 195) correctly detected 79 incompetent perforators in between 62 and 66 limbs, and Beesley and Fegan¹ correctly detected 40 incompetent perforators in 32 limbs using thermography. This is less than two perforators per limb. Neither we nor Mr. Patil investigated how many incompetent perforators were not detected by this method, but I am sure we would all agree that some remained undetected.

The clinical method of detecting incompetent perforators used by Mr. Patil and others revealed 50 sites of incompetence in 62-66 limbs (say 0.9 per limb), and he states he was surprised at operation to palpate fascial defects which had previously been missed. This suggests that the examination of the elevated limb was not performed pre-operatively. In our series, using the method described by Fegan² of palpating the elevated limb and then observing points of digital control of retrograde filling, we detected 46 incompetent perforators in 32 limbs.

The total number of incompetent perforators diagnosed pre-operatively by Mr. Patil and ourselves is far from satisfactory. Mr. Patil diagnosed in 62-66 limbs 50 clinically and 79 thermographically. We diagnosed in 32 limbs 46 clinically and 40 thermographically. In both series many of these markings were coincident. An estimate could be made of two correctly diagnosed incompetent perforators per limb, which figure is well below the number that, in our experience, is found when extensive operative exploration is performed.

The conclusions I feel emphasize the great difficulties of accurate pre-operative diagnosis of sites of incompetence and the advantages of compression sclerotherapy, where missed perforators can be detected and injected at the patient's second and subsequent visits. This is an accepted part of the treatment and is no embarrassment, while a second operation would often be declined.—I am, etc.,

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REFERENCES

- 1 Beesley, W. H., and Fegan, W. G., *British Journal of Surgery*, 1970, 57, 30.
- 2 Fegan, W. G., *Varicose Veins: Compression Sclerotherapy*, London, Heinemann, 1967.

SIR,—I read with interest your leading article on the hidden perforating veins (24 January, p. 186), emphasizing the value of thermography in detecting incompetent perforating veins. The article by Mr. K. D. Patil and colleagues in the same issue of the *B.M.J.* and one by Beesley and Fegan¹ are at some variance in their results, which has unfortunately been overlooked by your leader writer. It would seem that most investigators using clinical methods of detection have a 50% ± 10% accuracy. The

degree of accuracy by clinical assessment is necessarily influenced by the experience and practice of the examiner. It would seem the Dublin group with Professor W. G. Fegan have the advantage of numbers of patients for examination, yet the successful detection rate is still in the 50% range. Although these workers report a variation of 10% between clinical, infra-red, and phlebographic methods there does not seem to be a statistically significant difference between these methods.

In contrast Mr. K. D. Patil and his colleagues (24 January, p. 195) find a highly significant difference in favour of thermography. If an accuracy of 94% is reproducible by other clinics this will be a valuable asset in the aid of diagnosis and treatment. If the treatment is to be planned surgery, the highest degree of diagnostic accuracy is essential. One cannot agree therefore with the leading article that difficult cases only should be investigated by thermography. The "difficult case" is all too frequently the one which has been inadequately treated previously.

If, as the leading article suggests, lack of finance is the reason for not using better diagnostic methods, then surely a planned procedure such as surgery for chronic venous insufficiency should be reserved for occasions when full diagnostic facilities are available. Compression sclerotherapy in skilled hands offers the alternative of a more economic treatment with the advantage of assessment of therapeutic accuracy throughout the period of treatment.—I am, etc.,

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REFERENCE

- 1 Beesley, W. H., and Fegan, W. G., *British Journal of Surgery*, 1970, 57, 30.

SIR,—Your leading article on the perforating veins of the lower limb (24 January, p. 186) is a good example of how misleading the use of percentages can be. Mr. K. D. Patil and others (p. 195) show merely that, in clinical localization of perforating veins in the lower limb, they were correct on 60% of occasions. This is no basis for your statement that "our fingers and eyes will detect only 60% of perforating veins." Since there is no way of knowing the total number of incompetent perforating veins present in any limb, we cannot know what percentage is found by any method.

Mr. Patil and colleagues were surprised to find that "palpation immediately before exploration revealed fascial defects at some of the clinically missed but thermographically positive sites." If, as it appears, they were palpating the leg with the patient lying down on the table, they were in fact examining the limb in a manner approaching that described by Fegan¹. This finding, far from stressing the fallibility of the clinical method, shows, how in their own series, it might have produced better results if more thoroughly applied.—I am, etc.,

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REFERENCE

- 1 Fegan, W. G., *Varicose Veins: Compression Sclerotherapy*, 1967. Heinemann, London.

Hallucinogenic Effect of Nutmeg

SIR,—A patient tells us it is common knowledge among the drug-taking and hippie sub-culture that taking nutmeg is a potent way of taking a "trip." The hallucinogen in nutmeg is believed to be myristicin.

An intelligent 19-year-old female with a hysterical personality took one ounce of nutmeg in water and orange juice. She had five days previously taken L.S.D. with very little effect. She had also experimented with cannabis, but the only noticeable effect of this was that she developed a dry mouth. In contrast to this the effects of nutmeg were marked. At first she felt no effect, but after four hours she felt cold and shivery. Six to eight hours later she was vomiting severely. She saw faces and the room appeared distorted, with flashing lights and loud music. She felt a different person and everything seemed unreal. Time appeared to stand still. She felt vibrations and twitches in her limbs. When she shut her eyes she saw lights, black creatures, red eyes and felt sucked into the ground. Her mood was one of elation. She was taken by her friends to be seen by one of us (D.P.) as an emergency. She was admitted and quickly fell into a sound sleep. For the next week, however, she felt that she was walking in a cloud and complained that her thinking was confused and that she found it difficult to follow what people were saying. Her concentration seemed poor and lapses of attention were noticed.

The clinical features of this case have much in common with the effects of nutmeg ingestion previously reported.¹ The physical symptoms were unpleasant, and the girl states that she would not take nutmeg again because of these. In her case vomiting was the most severe physical side-effect. Severe physical collapse following ingestion of nutmeg occurs.² A dose of 10-15 g. however is required before acute intoxication occurs.³ Despite the side-effects, however, it is probable that with the increased drug-taking among young people more cases of nutmeg intoxication will come to medical attention.—We are, etc.,

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REFERENCES

- 1 Fras, I., and Friedman, J. J., *New York State Journal of Medicine*, 1969, 69, 463.
- 2 Shulgin, A. T., *Nature*, 1966, 210, 380.
- 3 Truit, E. B., jun., Duritz, G., and Ebersberger, E. M., *Proceedings of the Society for Experimental Biology and Medicine*, 1963, 112, 647.

Fabric Softeners and "Proteinuria"

SIR,—This department is responsible for the screening of newborn infants for inborn errors of metabolism using urine-impregnated filter-paper, and recently we have had frequent false positive tests for proteinuria. Positive results for protein were obtained on the filter-paper using a spot test with tetrabromophenolphthalein, but tests using fresh liquid samples from the same child were negative.

We have now ascertained that these anomalous results were due to the mothers using fabric softeners in washing their children's nappies. These softeners consist of mixtures of amino esters, cationic amides, amido-amines, quaternary ammonium compounds, imidazolines, fluorescers, colouring

matter, and perfume.¹ It has been found that both the quaternary ammonium compounds and the amido-amines give positive results with tests for proteinuria using tetrabromophenolphthalein and tetrabromophenol blue (Albustix). Since our health visitors have advised the mothers to place the filter-paper in nappies not treated with fabric softeners the incidence of false positive tests has markedly fallen.

We are grateful for help from Dr. J. W. Richardson, of Lever Bros. Ltd., and Dr. A. T. Bowerman, of Proctor & Gamble Ltd.

—We are, etc.,

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REFERENCE

- ¹ Evans, W. P., *Chemistry and Industry*, 1969, p. 893.

Impotence in Farm Workers

SIR,—The report by Dr. M. L. E. Espir and others (14 February, p. 423) of four cases of impotence in farm workers who had been handling various pesticides and herbicides indicates once more the dangerous nature of these chemicals. It should stimulate the Government departments concerned to haul themselves out of complacency regarding the safety regulations relating to these chemicals.

Although Dr. Espir and his colleagues are at pains not to specify which chemical was responsible for the impotence, the facts they report suggest that the organophosphorus group was the most likely culprit. If it had not been for two frustrated wives one wonders what the eventual outcome would have been in at least two of the cases.

It seems extraordinary that in the latest edition of the leaflet *The Safe Use of Chemicals on the Farm*¹ issued by the Ministry of Agriculture, Fisheries and Food employers are not compelled to arrange for routine estimations of cholinesterase activity in their employees involved in the handling of organophosphorus chemicals. As it is, employers are only "strongly recommended" to arrange for their workers to be medically supervised.

For many years routine checks of cholinesterase activity have been advocated as an important factor in the prevention of organophosphorus poisoning. Gage² pointed out that it was important to have pre-exposure estimations of cholinesterase activity because this varied from person to person. Therefore, not only is it important to perform routine checks after the handling of these chemicals, but ideally a cholinesterase estimation should be made before the work begins. Edson³ recommended that all workers involved in crop-spraying operations should have periodic estimations of cholinesterase activity, especially employees of crop-spraying contractors.

Few cases of organophosphorus poisoning have been reported in this country.^{4,5} However, the cases reported by Dr. Espir and his colleagues suggest that the problem of poisoning by insecticides may be much greater than the number of previously reported cases indicates. It would be interesting to know how many unexplained accidents on farms have been due to insecticides, and, indeed, it would be interesting to know the incidence of frus-

trated wives among the employees of crop-spraying contractors and others frequently involved in the handling of these chemicals.—I am, etc.,

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REFERENCES

- ¹ Ministry of Agriculture, Fisheries and Food. *The Safe Use of Poisonous Chemicals on the Farm*. Leaflet (APS/1). 1969.
² Gage, J. C., *British Medical Journal*, 1955, 1, 1370.
³ Edson, E. F., *British Medical Journal*, 1955, 1, 841.
⁴ Rossiter, E. J. R., *Practitioner*, 1960, 184, 769.
⁵ Redhead, I. H., *Lancet*, 1968, 1, 686.

Cat Leukaemia

SIR,—According to a number of recent reports^{1,2} there is much interest at the present time in a possible connexion between human and animal leukaemia. An epidemiological study aimed at establishing a connexion between human and feline leukaemia has been initiated at Bethesda, Maryland, by the U.S. National Cancer Institute. At the University of Missouri canine leukaemia is being surveyed epidemiologically by Dr. C. R. Dorn. In Glasgow, at the Animal Leukaemic Research Unit, the Jarrett brothers have shown that the feline leukaemia virus infects human cells in culture. However, Dr. T. E. O'Connor, of Bethesda, has stated that fewer than a quarter of leukaemia patients have cats.

In my modest experience I have found that the households of eight out of 21 children who died recently of leukaemia had kept cats and that six others had kept dogs. In several instances the animals were known to be sick. If two cases of Hodgkin's disease and five of lymphosarcoma were added, altogether 11 cats and 10 dogs were found in the 28 different households; furthermore five families kept budgerigars. An equal number of normal paired control households kept five cats, seven dogs, and one budgerigar. These families all lived in an urban area and the pets were kept at close quarters with the children. When considering other childhood cancers very little difference was found between cases and controls.

This type of inquiry is not accurate enough to allow any definite conclusion to be drawn, but the results suggest that it might possibly be a good thing to set up a planned investigation of a similar type in Britain.—I am, etc.,

MARGARET PENROSE.

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REFERENCES

- ¹ *Science News* (Washington), 1970, 97, 23.
² *World Medicine*, 1969, 5, No. 4, p. 17.

Cost of Anaesthetic Agents

SIR,—Dr. C. E. Briscoe's observations on the price of oxygen in hospital (21 February, p. 488) made me look at the cost to the N.H.S. of the same gas when prescribed on E.C. 10 for patients at home.

According to the Drug Tariff (1970 Edition) 48 cu. ft. of oxygen in the standard cylinder costs a basic 27s. The Pricing Bureau tells me that to this is added 10½% on cost, 7s. 6d. dispensing fee, and 2d. container allowance—total 37s. 6d. In addition a delivery fee is payable, varying according

to number of cylinders and time of day or night. The cost to the N.H.S. is therefore 9.4d. per cubic foot if the patient collects—more if the chemist delivers. No doubt part of the basic 27s. pays for depreciation of cylinders, but so presumably does part of the charge to the hospitals. According to Dr. Briscoe's figures, the cost per cu. ft. to the N.H.S. is 4.12d. from a 24 cu. ft. cylinder, 0.99d. from a 240 cu. ft. cylinder, and 0.37d. when coming from a piped supply.

Considering the difficulties of handling and storing cylinders, I do not think the chemist is overpaid. Supplying oxygen to patients at home must remain a relatively expensive exercise—until one looks at the hospital beds that are thereby being freed.

But that a whiff of the same gas should cost the N.H.S. twenty-five times as much at home as it does in an up-to-date hospital seems odd. Can someone explain?—I am, etc.,

JOHN S. PATTERSON.

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SIR,—We were very interested to read Dr. C. E. Briscoe's article on halving the cost of anaesthetic agents (21 February, p. 488). We have long felt that anaesthetists are far too lax in their use of exceedingly costly drugs, and that we can give a lead to the profession in economy measures. We have taught that gallamine is not only cheaper than *D*-tubocurarine, but also saves dollars when used in its stead. It has the further advantage that when exhibited together with halothane it does not lower blood pressure. This also applies to the newer pancuronium.

Since the publication of the use of low-flow gases together with halothane during spontaneous ventilation¹ we have used this method as the one of choice when not instructing students, and have been impressed not only with its considerable economy as compared with high gas flows, but also with the ease of administration and the smoothness of the anaesthetic. Economy is achieved by using only a 2-litre mixed gas flow, thus evaporating a very small amount of halothane.

The question now arises as to whether the Magill circuit is ever really indicated in modern anaesthesia, except for the administration of trichloroethylene. The high gas flow implicit in its use is a certain barrier to economy, and its advantages over an absorber system are tenuous, to say the least.—We are, etc.,

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REFERENCE

- ¹ Mushin, W. W., and Galloon, S., *British Journal of Anaesthesia*, 1960, 32, 324.

Idoxuridine and Motor Neurone Disease

SIR,—Prolonged clinical acquaintance with cases of motor neurone disease in any of its forms induces an irresistible desire to grasp at any therapeutic straws which may offer a chance to counter the inexorable downward course of this malady. Our neurological department encounters 20 to 25 new cases of this condition each year, and it has been our practice to follow up all our cases at