isoprenaline inhaler during an acute asthmatic attack in man, by giving 0.5 µg/kg isoprenaline intravenously every 30 seconds to hypoxic dogs during a five-minute exposure to fluorocarbon 11, we again failed to induce cardiac sensitization. The PaO_2 values of approximately 50 mm Hg recorded in these experiments are comparable to those found by Tai and Reed³ in patients with clinically severe asthma, but the blood concentration of fluorocarbon and the dose of isoprenaline were far in excess of those likely to result in man from the use of pressurized inhalers. The concentrations of fluorocarbon 11 in the blood were at least twenty times greater than those found in man by Dollery *et al.*¹ following a massive overdose of 30 puffs of an inhaler in two minutes, and the dose of isoprenaline was equivalent to at least 50 puffs of an inhaler in the space of five minutes.

Our results, therefore, do not support the view that the unexplained deaths among asthma sufferers could have been due to cardiac sensitization resulting from the use of pressurized aerosols containing isoprenaline.

These results were presented in detail to the European Society for the Study of Drug Toxicity in Berlin, June 1971, and are to be published in the Proceedings.

—We are, etc.,

D. G. CLARK
D. J. TINSTON

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- ¹ Reinhardt, C. F., Azar A., Mayfield, M. E., Smith, P. E. jun., and Mullin, L. S., *Archives of Environmental Health*, 1971, 22, 265.
- ² Taylor, G. J., and Harris, W. S., *Journal of the American Medical Association*, 1970, 214, 81.
- ³ Tai, E., and Reed, J., *Lancet*, 1967, 1, 644.
- ⁴ Dollery, C. T., Draffan, G. M., Davies, D. S., Williams, F., and Connolly, M. E., *Lancet*, 1970, 2, 1164.

Infant Cot Deaths

SIR,—Among the many hypotheses put forward to account for these tragic infant deaths the suggestion of the possibility of airway obstruction of the larynx by closure of the epiglottis has not been mentioned.

The most common postmortem findings reported have been those of a minor upper respiratory tract infection. This would suggest that the infant would have a cough with some tacky mucus. If one would postulate that the sequence of events that lead to death would be that the infant coughs up a little mucus, and, as all infants do, attempts to swallow the mucus that reaches the pharynx. This results in closure of the laryngeal airway by the epiglottis, which becomes "gummed" down by some residual mucus, effectively blocking the next step, which would be an inspiration, thus forcing the epiglottis down further over the larynx. As the tidal air has been expelled in the process of coughing, there is no way for the infant, or even an adult, to make a forced expiration to force the epiglottis open. Death is rapid and silent—without a struggle from asphyxiation or vagal inhibition.

The rapid death leaves little time for morbid pathological changes to be found and in the process of handling the dead infant some residual air is forced from the lungs, opening the epiglottis and destroying

the only evidence of cause of death.

If this hypothesis, which would account for the lack of any significant postmortem changes, is accepted, and it would appear to be a reasonably valid one, we have come to the reluctant conclusion that there is no solution to avert this tragic problem.—I am, etc.,

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Severe Malarial Infection

SIR,—The report from Ibadan entitled "Severe Malarial Infection in a Patient with Sick-cell Anaemia" (22 May, p. 445) is by no means as unusual as the authors would appear to suggest. When working at Harari Hospital, Rhodesia, I encountered several cases of acute malaria (due to *P. falciparum*) in patients with sickle-cell disease. The diagnosis of sickling was confirmed by haemoglobin electrophoresis, and though I do not have the records at hand I can remember at least one child with sickle-cell anaemia who died in an acute attack of malaria. I know that other members of the medical staff there had the same experience.

We knew of course from the original observation of Beet,¹ and the work of Brain,² Raper,³ and others, of the increased resistance to malaria conferred by the sickling trait. However, it was our impression that malarial infections occurred in the homozygous state which were quite often severe, which could precipitate a crisis, and which could rapidly lead to death through dehydration, sequestration, and lysis of red cells. When presented with a "sickle-cell crisis," then, it was always our practice to disregard theoretical considerations of increased resistance to malaria and to make a search for the parasite.—I am, etc.,

A. M. E. PICHANICK

Department of Child Health,
Hammersmith Hospital,
London W.12

- ¹ Beet, E. A., *East African Medical Journal*, 1946, 23, 75.
- ² Brain, P., *British Medical Journal*, 1952, 2, 880.
- ³ Raper, A. B., *Journal of Tropical Medicine and Hygiene*, 1950, 53, 49.
- ⁴ Raper, A. B., *British Medical Journal*, 1956, 1, 965.

Humidity in Hospital

SIR,—Dr. J. R. R. Wray's letter (19 June, p. 708) drawing attention to excessively dry atmospheres in new hospitals and houses is timely. There is now much advertising of the latest heating methods, which produce even hotter and drier atmosphere, so that the relative humidity in both hospitals and houses is commonly down to 20–25% in cold weather. This low humidity at a room temperature of 70°F (22°C) causes severe drying of naturally moist surfaces. This is unpleasant for the healthy, and dangerous for the diseased, respiratory tract. Dr. Wray very rightly warns that cheap hygrometers are often unreliable. I suggest that any air hygrometer needs constant checking; the whirling wet bulb instrument is the one of choice.—I am, etc.,

Aberdeen

DOUGLAS NEEDHAM

Terminology

SIR,—What is the purpose of the word "disease" in the phrase "chronic obstructive airways disease" (5 June, p. 561)? Presumably this phrase is intended to refer to a group of patients with a specified disorder of function in the respiratory system, chronic airways obstruction. We have become accustomed to the use of phrases indicative of disorders of function in other systems (for example, systemic hypertension, intestinal obstruction, raised intracranial pressure, congestive heart failure) or even on the vascular side of the lungs themselves (pulmonary hypertension), without thinking it necessary to add "disease."

Why is it so generally thought necessary to add this word in referring to abnormally high resistance to gas-flow in the lungs? To my mind, in this context it is worse than useless; its presence distracts attention from the main purpose of the use of this sort of term, namely to refer to groups of patients characterized by a common disorder of function, without commitment to implications about aetiology, structural changes, or other characteristics.—I am, etc.,

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London S.W.3

Multiple Eponyms

SIR,—I wonder whether Dr. T. J. David (12 June, p. 655) would accept for his record the description of craniofaciomandibular dyostosis syndrome by the Troquart-Apert-Franceschetti - Greig - Helmholz - Harrington - Marie - Sainton - Crouzon - Treacher - Collins syndrome. If not, perhaps he will allow me to add Bööck-Hesslevik-Buckley-Yakovlev - Park - Powers - Jackson - Scott - Banks - Brown - Harper - Meisenbach - *et al.*—I am, etc.,

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Infantile Subdural Haematoma

SIR,—The interesting paper by Mr. A. N. Guthkelch (22 May, p. 430) is of particular concern to Home Office pathologists, for whom certain cases of fatal subdural haematoma in infancy have been a problem for some time. Such fatalities are best considered in the three main distinguishable categories.

- (1) Those with obviously related head injury such as bruising or fractures or both.
- (2) Those with injuries elsewhere on the body, but no significant injury to the head.
- (3) Those with no significant injury anywhere.

The first category presents no problem in that the injuries clearly lead to death. The second category is more difficult, particularly if the other injuries are of long standing, but there should be no hesitation in attributing the fatal subdural haematoma to the general violence implicit when there are injuries of appropriate severity and duration to other parts of the body.

In the third category I have for some

time requested tactful but firm questioning as to mishandling, including the possibility of shaking, but in the absence of a satisfactory explanation, as in the examples quoted, one can only leave one's opinion "open" so far as the cause of the haemorrhage is concerned.—I am, etc.,

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Listeriosis

SIR,—Your epidemiological note on listeriosis (22 May, p. 477) could perhaps have indicated why only 30 cases of human listeriosis were noted during 1970 and why "the infection is probably much more common than the number of reported cases suggests."

Louria¹ has recently written "in many laboratories the organism is incorrectly identified as a diphtheroid and is discarded as a contaminant." He emphasizes that this can be avoided "if all diphtheroid-like organisms showing beta hemolysis are presumptively identified as *Listeria*" so that tumbling motility can be sought. The same worker has also reported eight cases² in addition to a previously reported 18.³ All his cases add to the evidence that lymphatic malignancy predisposes to listeriosis. In addition to this type of malignancy, the use of radiotherapy by its suppression of immune mechanisms should also alert doctors to the possibility of *Listeria monocytogenes* infection.—I am, etc.,

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St. Thomas's Hospital,
London S.E.1

¹ Louria, D. B., *Internal Medicine Digest*, 1970, 5, 39.

² Louria, D. B., Blevins, A., and Armstrong, D., *Annals of the New York Academy of Sciences*, 1970, 174, 2.

³ Louria, D. B., et al., *Annals of Internal Medicine*, 1967, 67, 261.

Viper Bites

SIR,—Dr. A. W. J. Houghton (12 June, p. 650) advocates chlorpheniramine combined with hydrocortisone as the treatment of choice for viper bites. I, however, think that a quicker response could be obtained if a larger dose of hydrocortisone was given initially—namely, 100 mg either intravenously or intramuscularly, and also chlorpheniramine could be given intravenously. Both these drugs are safe to give intravenously, and because of the sudden onset of severity and symptoms following these bites, the above regimen would help to lessen them.—I am, etc.,

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Perchloroethylene Burns

SIR,—The recent report¹ of the first fatalities in Britain due to the inhalation of perchloroethylene used in coin-operated dry-cleaning machines prompts us to submit the following case report.

At 7.30 a.m. on 10 March 1971 a 29-

year-old man (part-owner of a launderette) was admitted to the casualty department of St. Helier Hospital unconscious with severe burns. About five hours before, he had gone back to his business premises in order to catch up on a back load of work. He was overcome by fumes of perchloroethylene which had spilt on to the floor owing to a faulty machine. He fell to the floor, thereby coming into direct contact with the chemical.

On admission he was found to be unconscious with extensive erythema and blistering of the face, neck, both arms, chest, and left thigh, involving 25-30% of the total body area. He was intubated and ventilated and intravenous plasma administered. The burnt areas were sprayed with Polybactrin and nursed exposed. He regained full consciousness over the following 24 hours, and his burns gradually healed over the following three weeks, when he was discharged.

The anaesthetic properties and the severe corrosive action of perchloroethylene on the skin have been reported by Morgan² in a similar case. Perchloroethylene used to clean the air filter in the central air supply has led to narcosis in a patient ventilated on compressed air.³ Prolonged and repeated exposure to the fumes may also lead to hepatic and renal dysfunction, as suggested by experimental work in animals.⁴

With the increasing use of coin-operated dry-cleaning machines in Britain it is felt that alerting the public, as well as casualty officers, to the dangers of perchloroethylene should be of the utmost importance.—We are, etc.,

STANLEY LING
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St. Helier Hospital,
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Surrey

¹ *Guardian*, 10 June 1971, p. 22.

² Morean, B., *British Medical Journal*, 1969, 2, 513.

³ Lackore, L. K., and Perkins, H. M., *Journal of the American Medical Association*, 1970, 211, 1846.

⁴ Carpenter, C. P., *Journal of Industrial Hygiene and Toxicology*, 1937, 19, 323.

Cigarette Dependence

SIR,—In his paper on cigarette dependence (8 May, p. 330), Dr. M. A. H. Russell cited evidence to support the concept that true physical dependence may develop on nicotine. We have obtained results which suggest that regular smokers metabolize certain endogenous amines differently from non-smokers. Such differences may, in part, be responsible for the withdrawal symptoms which are sometimes seen on stopping smoking.

The 24-hour urinary excretion of adrenaline, the histamine metabolite 1-methylimidazole-4-acetic acid (1, 4-MeImAA), and its isomer 1-methylimidazole-5-acetic acid (1, 5-MeImAA) was significantly higher in 22 smokers than in 21 non-smokers (Table I).

TABLE I—Effect of Smoking on 24-hour Urinary Excretion of some Monoamines and Metabolites

	Non-smokers	Smokers	Significance (P)
No.	21	22	
Age	24 ± 7	29 ± 9	NS
Cigs./Day	0	19 ± 7	
Adrenaline	11 ± 54%	17 ± 79%	0.05
Noradrenaline	23 ± 36%	24 ± 34%	NS
VMA	5400 ± 28%	6300 ± 29%	NS
5-HIAA	6700 ± 27%	6300 ± 25%	NS
Histamine	4600 ± 47%	5900 ± 56%	NS
1,4-MeImAA	2720 ± 33%	3670 ± 45%	<0.05
1,5-MeImAA	2000 ± 61%	3680 ± 64%	<0.01

Values denote $\mu\text{g}/24 \text{ hr} \pm \text{S.D.}\%$

All foodstuffs known to influence the excretion of VMA and 5-HIAA were excluded from the diet.

TABLE II—Effect of Stopping or Starting Smoking on the Urinary Excretion of Adrenaline, 1,4-MeImAA, and 1,5-MeImAA (ng/24-hour)

Day	Cigs.	Adrenaline	1,4-MeImAA	1,5-MeImAA
SUBJECT 1				
-4	15	7.2	3220	5420
-2	15	4.2	3320	3390
0	0	7.8	6300	6900
+2	0	5.4	3400	7420
+5	0	5.5	6420	4710
+6	15	5.4	4160	3320
SUBJECT 2				
-3	20	9.7	3470	1990
-1	20	7.4	14280	810
0	0	3.9	3420	760
+3	0	6.8	4530	1780
+8	0	5.5	13900	1890
+12	0	5.1	3490	1490
+13	20	9.4	2590	1320
SUBJECT 3				
-4	10	10.4	2640	2800
-3	10	11.2	3200	2750
0	0	12.5	2420	2020
+8	0	14.1	2770	10400
+15	0	9.1	2640	17600
+16	10	11.2	3100	11450
SUBJECT 4				
1	0	10.5	3200	4900
2	0	17.4	2200	3200
3	0	44	2000	2500
4	16	27.4	2000	3300
5	0	12.0	2400	3400

An increased urinary excretion of 1,4-MeImAA by smokers has also been reported by Granerus.¹ The output of these compounds was not altered when three subjects stopped smoking for between 5 and 15 days (Subjects 1-3, Table II). Furthermore, in a non-smoker the 24 hr. excretion was not affected when he smoked 16 cigarettes (Subject 4, Table II). Smoking did not appear to influence the excretion of noradrenaline, vanilylmandelic acid (VMA), 5-hydroxyindole-3-acetic acid (5-HIAA), or histamine.

These results suggest that the changes are brought about by chronic exposure to nicotine and furthermore that they are not reversed immediately upon stopping smoking.

We are grateful to Miss A. K. Winterburn and Miss V. Gradowski for technical assistance.—We are, etc.,

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A. S. KELVIN

Department of Pharmacology and Therapeutics,
University of Dundee,
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¹ Granerus, G., *Scandinavian Journal of Clinical and Laboratory Investigation*, 1968, 22, suppl. 104, p. 59.

Training Surgeons

SIR,—The writer of your leading article on the above subject (5 June, p. 543) draws our attention to the fact that there are at present five middle-grade registrars to every senior registrar, "clearly a situation which cannot be allowed to continue." May I remind him that of these five middle-grade registrars, probably four come from overseas and have no intention of remaining in Britain.

Your plea for a drastic reduction in the number of middle-grade registrar posts would result in two things: firstly, a denial to a large number of overseas graduates of the opportunity of training at registrar level, and secondly, an inevitable reduction in the efficiency of the units concerned. Perhaps in the eyes of the present planner this is progress. I wouldn't know.—I am, etc.,

ROBIN BURKITT

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