

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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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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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 µg/24 hr ± 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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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.,

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