

tors and other professional workers contact the medical officer for environmental health about individual cases and action is then taken by him through the district housing offices to initiate the claim procedure—for example, in cases where the applicant is infirm or handicapped and has difficulty in visiting the housing department offices.—I am, etc.,

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Antibiotic Policy

SIR,—Resistant bacterial strains do emerge following the topical use of antibiotics, and outbreaks of infection by resistant organisms in a general surgical ward as a result of this have been recorded.¹ The fact that sensitization to cephaloridine may occur is recognized by the manufacturers even if not by Mr. A. V. Pollock and Miss Mary Evans (16 August, p. 436). It has been stated that agents used for topical prophylaxis should not select resistant variants,² yet resistance to the cephalosporins emerges in habituation experiments³ and in one clinical study resistance developed in four out of 25 patients treated with cephaloridine between the 5th and 15th days of therapy.⁴

The results of the open study in which cephaloridine was compared with povidone-iodine as prophylaxis against postoperative wound infection⁵ require careful appraisal. There were no untreated controls. Randomization was attempted by the "toss of a coin" but merely resulted in a wide difference in the number of patients allocated to the treatment groups both in total and in the one criterion (type of operation) considered. The randomization method used by the same authors in another study have recently been criticized in these columns (24 May, p. 442 and 5 July, p. 41). We take comfort, however, in the knowledge that Mr. Pollock and Miss Evans have finally "tossed their coin away" (26 July, p. 228) and now, using accepted methods of randomization, continue their search for an effective topical agent which is not used systemically.—We are, etc.,

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- 1 Alder, V. G., and Gillespie, W. A., *Lancet*, 1967, 2, 1062.
- 2 Lowbury, E. J. L., and Ayliffe, G. A. J., *Drug Resistance in Antimicrobial Therapy*, p. 75. Springfield, Thomas, 1974.
- 3 Barber, M., and Waterworth, P. M., *Journal of Clinical Pathology*, 1964, 17, 69.
- 4 Stewart, G., and Holt, R. J., *Lancet*, 1964, 2, 1305.
- 5 Pollock, A. V., and Evans, M., *British Journal of Surgery*, 1975, 62, 292.

Treatment of Breast Cancer

SIR,—In your leading article "Screening for Breast Cancer" (9 August, p. 338) you are justifiably pessimistic in recording the results of treatment of breast cancer when you state that "it is now evident that purely local

treatment by surgery or radiotherapy rarely cures the disease." Should this nihilistic position regarding breast cancer receive too much publicity among our patients it will lead to unnecessary anxiety. While I agree with you that in most patients occult dissemination has taken place by the time the lump in the breast has been discovered, it should also be pointed out that when the cancer is confined to the breast, or to the breast and low axillary nodes, then mastectomy with axillary dissection is curative. Daland¹ and Haagensen² have both demonstrated survival rates of more than 60% 10 years after such treatment; in both series the survival rate after this time parallels that of the normal population. Less than 5% of patients with untreated breast cancer will survive five years.^{1,3}

I will continue to perform mastectomy on *ali* those patients who do not have signs of incurability until the group of patients without occult spread of the disease can be precisely defined. And that day, I fear, is a long way off.—I am, etc.,

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- 1 Daland, E. M., *Surgery, Gynecology and Obstetrics*, 1927, 44, 264.
- 2 Haagensen, C. D., *Diseases of the Breast*, 2nd edn. Philadelphia, Saunders, 1971.
- 3 Bloom, H. J. G., et al., *British Medical Journal*, 1962, 2, 213.

Death during Dental Anaesthesia

SIR,—Dr. A. S. Mody (23 August, p. 488) describes yet another apparently inexplicable fatality associated with dental anaesthesia delivered from an "on-demand" gas machine.

The use of "on-demand" anaesthetic machines poses a number of problems, not the least of which is how to ventilate the patient with oxygen positively should the need arise. A popular solution is to plug a reservoir bag into the anaesthetic circuit. However, this may have disastrous consequences if the blow-off pressure of the patient's expiratory valve exceeds the gas delivery pressure. Almost complete rebreathing will occur in and out of the reservoir bag, with eventual severe hypercarbia and hypoxia in the patient. If, in addition, the halothane vaporizer has been positioned downstream from the reservoir bag very high concentrations of vapour will be treated by the patient. Thus with coexisting hypercarbia, hypoxia, deep anaesthesia, and possibly high blood catecholamine levels due to preoperative fear the stage is set for ventricular fibrillation, which seems a more likely cause for these fatalities than the vasovagal syncope so often cited.

If an "on-demand" anaesthetic machine is used an independent means of positively ventilating the patient with oxygen should be available. Even better, the use of a continuous-flow machine of the Boyle type would avoid the dangers I have described.—I am, etc.,

J. D. HILL

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SIR,—In the hope of preventing further unnecessary tragedies I report yet another of

these deaths. It occurred in February this year and closely resembles the four fatalities in children reported recently in your columns.¹⁻⁴ My information is derived from a photocopy of the inquest proceedings and from a discussion with the dentist.

The patient was a thin woman aged 43. She was said by her doctor to be in very good health except for occasional migraine, for which he had prescribed clonidine. The dentist told me that she was "absolutely terrified; it had taken her two years to pluck up courage to come for treatment. She was pale, but not more than you would expect for a person who worked indoors." She attended for the extraction of two front teeth and had "specifically requested to be anaesthetized by gas." The anaesthetist, a Fellow of the Faculty of Anaesthetists, referred to himself at the inquest as a "consultant specializing solely in dental anaesthesia." He confirmed that the patient "seemed very frightened." "We had her sit in the chair which we then drew back until she was nearly lying down," he told the coroner; but the dentist told me that she was tilted back no farther than the semi-upright position, "about 45°." She was given nitrous oxide, oxygen, and halothane, which the anaesthetist said she took in a "perfectly normal manner." The teeth were easily extracted, induction and extraction together taking about three minutes. She remained unconscious when recovery was expected and could not be roused. A "nervous twitch" was noticed underneath her right eye. Then suddenly, unaccountably, there was cardiac arrest. She was put on the floor and resuscitation was attempted, but to no avail.

The cause of death in this patient and in the four children was, I believe, a fainting attack coming on during induction. A faint at this stage so closely mimics the onset of smooth anaesthesia that it escapes detection even by specialist anaesthetists. The fainted patient is therefore kept head up during the ensuing few minutes, which sometimes results in cardiac arrest. Evidence from previous cases suggests that the arrest usually takes the form of ventricular fibrillation, which in a dentist's surgery is almost inevitably irreversible. The fact that of the five fatalities referred to above, in four the anaesthetics were given by specialist anaesthetists and in the fifth by a second dentist shows how difficult it is to spot a faint during induction, as indeed I myself have found.⁵

Over the years I have collected information on 81 deaths with anaesthetics administered to patients in the dental chair. In well over three-quarters of them I attribute the death to fainting and believe that had the patients been treated lying down they would have come to no harm.—I am, etc.,

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- 1 Mehta, S., *British Medical Journal*, 1974, 2, 224.
- 2 Bourne, J. G., *British Medical Journal*, 1975, 1, 93.
- 3 Brunnen, A., *British Medical Journal*, 1975, 3, 100.
- 4 Mody, A. S., *British Medical Journal*, 1975, 3, 488.
- 5 Bourne, J. G., *Lancet*, 1957, 2, 499.

* * * This correspondence is now closed.—ED., B.M.J.

Effects of Anti-inflation Policy

SIR,—I have been surprised to find in your correspondence columns no protest at Mrs. Castle's letter about the Government's anti-inflation policy (9 August, p. 385). I can