

respiratory arrest and died. No additional information was obtained at post-mortem examination.

Presumably in our patient the normal blood loss from the corpus luteum was magnified by anticoagulation. Menorrhagia and irregular prolonged menstrual cycles are common in renal failure, but some of these cycles are ovulatory.<sup>1</sup> Often an oral contraceptive agent is advised to reduce the menstrual blood loss in these patients, who are already anaemic. A more simple approach would be to use medroxyprogesterone 150 mg intramuscularly three-monthly. This would prevent ovulation and conception and would perhaps abolish menstruation. There may therefore be a place for the regular use of a long-acting progesterone in some menstruating women being treated by chronic haemodialysis.

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<sup>1</sup> Goodwin, N J, *et al*, *American Journal of Obstetrics and Gynecology*, 1968, **100**, 528.

### Low-nicotine cigarettes and health

SIR,—It was with great interest that I read the contribution by Dr S Freedman and Professor C M Fletcher (12 June, p 1427) because Kirsch<sup>1</sup> has run similar experiments in our research department. In these almost 45 000 cigarettes from four different test brands of varying nicotine content were smoked blindfold by 47 heavy smokers over a total test period of 1400 days. In our experiments with cigarettes of especially low nicotine content (so-called nicotine-free cigarettes) the majority of smokers smoked their regular brands on the side, although the nicotine content of the test cigarettes was unknown and they were handed out in unlimited quantities at no cost. We see this as further confirmation of the generally known fact that tobacco is smoked instead of lettuce solely because of its nicotine content.

Dr Freedman and Professor Fletcher deduce from their experiments that the dangers of smoking could be neutralised by lowering the content of nicotine. The submitted findings do not, however, justify such a conclusion: (1) The poison intake from smoking is only slightly influenced by the poison content of the respective cigarette brand. Depth of inhalation is much more important. According to experiments carried out by Harke<sup>2</sup> in the research institute of the German cigarette industry the nicotine intake varies in the ratio of 1:100 from smoker to smoker. Compared with this a reduction of nicotine in one cigarette by a factor of 0.3—as in Dr Freedman and Professor Fletcher's experiments—is so small as to be practically meaningless because it can be compensated or even over-compensated without the slightest difficulty by merely inhaling a little more deeply, something which most smokers usually do unconsciously. (2) Depth of inhalation was not measured in the authors' experiments. (3) Evidently only those cigarettes smoked during the test were counted. According to our experience one important source of error in such tests—neglected by the authors—is from people continuing to smoke their own regular brand. (4) The evaluation of the frequency of coughing was evidently based on the purely subjective statements of the smokers themselves during the monthly visits. This is a completely

unscientific method which cannot be acknowledged.

Thus not even the results obtained by Dr Freedman and Professor Fletcher can alter the fact that, until we have definite proof to the contrary, we must continue to assume that the hope of "desharpened" smoking by reducing the cigarette poison content is for the present unfounded and probably even an illusion.

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<sup>1</sup> Kirsch, E, Dissertation, Clinical Faculty Mannheim, University of Heidelberg, 1975.

<sup>2</sup> Schmidt, F, *Kassenarzt*, 1976, **16**, 1964.

<sup>3</sup> Harke, H-P, *Münchener medizinische Wochenschrift*, 1970, **112**, 2328.

### Definition of preterm delivery

SIR,—In the article on the contribution of preterm delivery to perinatal mortality by Dr R W Rush and others (23 October, p 965) it is stated that "infants born before the onset of the 37th week of pregnancy—that is, three weeks or more before the expected date of delivery—are now described as preterm."

If normal pregnancy lasts for 40 weeks from the first day of the last menstrual period, the interval between the onset of the 37th week and the end of the 40th week is four weeks and not three.

I would be grateful if this apparent discrepancy could be explained, as it obviously affects the definition of "preterm" in a large number of infants.

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\*.\*We sent a copy of this letter to Dr Rush and his colleagues, whose reply is printed below.—ED, *BMJ*.

SIR,—Dr Rush is now in South Africa and we are replying on his behalf.

Oxford, like several other centres in the UK, does not calculate the length of pregnancy in the way described by Dr Dennison. In Oxford the expected date of delivery is taken as the beginning of the 40th week rather than the end, the patient completing 39 weeks plus 6 days from the first day of her last menstrual period before entering the 40th week of pregnancy. There is thus no discrepancy in our definition of "preterm," that being delivery before the onset of the 37th week or three weeks or more before the expected date of delivery.

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### Chiropody services

SIR,—Your leading article "Boots, boots, boots" (20 November, p 1214) illustrates well the present need for further assessment of so-called medical sociology. I know from personal experience that there is a growing tendency, for example, for chiropodists to work autonomously instead of accepting necessary guidance from a patient's general practitioner.

This is a dangerous practice. Particularly in the case of the chronically sick or physically disabled chiropody treatment should be available as and when indicated by the condition of the feet at the time and not merely as a routine, say two-monthly, service. The patient's whole bodily health needs to be taken into account. In this group of patients sepsis following too heroic chiropody treatment can be a great hazard to those with poor resistance to infection coupled with delayed healing power. The decision as to when chiropody treatment should be given or suspended is surely the doctor's responsibility. There needs to be a healthier relationship between paramedical and medical personnel. This is essential if community medicine is to function satisfactorily.<sup>1</sup>

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<sup>1</sup> *Seminars in Community Medicine*, ed R M Acheson and L Aird, vol 1, ch 1. London, Oxford University Press, 1976.

### Salbutamol by various routes

SIR,—Drs M R Hetzel and T J H Clark (16 October, p 919), comparing intravenous and aerosol salbutamol in stable asthmatics, found the aerosol to have a more prolonged bronchodilator effect. However, the parenteral and aerosol routes are used in different clinical situations. The patient with severe asthma may have insufficient vital capacity for satisfactory inhalation of aerosol. In this situation bronchodilatation should be effected by intermittent positive-pressure ventilation<sup>1</sup> or parenterally. The response to intravenous salbutamol compares favourably with that to intravenous aminophylline.<sup>2</sup>

When dealing with severe asthmatics at home the family doctor is restricted to parenteral therapy, but there may be difficulties in administering drugs intravenously to a distressed asthmatic patient. Recently the effects of intramuscular salbutamol have been assessed in a dose-response study<sup>3</sup> and in patients with acute asthma.<sup>4</sup> Following administration of a single intramuscular injection of salbutamol (8 or 12  $\mu\text{g}/\text{kg}$  body weight) to 10 asthmatic patients admitted urgently to hospital there was a rapid increase in the FEV<sub>1</sub> over baseline values in nine subjects. A mean maximum increase in FEV<sub>1</sub> of 41% and a sustained increase in nine of the 10 patients at two hours were observed. In those nine patients there were varying degrees of clinical improvement.

Judging from its effect on this small number of patients and because of the ease of administration we feel intramuscular salbutamol may represent an advance in the emergency treatment of asthma. At present the effect of repeated injections has not been assessed. Though not yet marketed, we feel a dose of 10  $\mu\text{g}/\text{kg}$  (700  $\mu\text{g}$  for the average 70-kg man) would be appropriate.

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<sup>1</sup> Choo-Kang, Y F G, Parker, S S, and Grant, I W B, *British Medical Journal*, 1970, **4**, 465.

<sup>2</sup> Williams, S J, Parrish, R W, and Seaton, A, *British Medical Journal*, 1975, **4**, 685.

<sup>3</sup> Ingram, J, *et al*, *British Journal of Clinical Pharmacology*, 1975, **2**, 263.

<sup>4</sup> Semple, P d'A, Legge, J S, and Habeshaw, T, *British Journal of Clinical Pharmacology*, 1976, **3**, 935.