Graphic Records in Labour

SIR,—Professor R. H. Philpott (21 October, p. 163) has described a method of graphic recording of labour which is as appropriate for labour conducted in Britain as it is for Africa, where it was devised. With some modifications, the use of Philpott's partogram is now established in the Birmingham Maternity Hospital and the Dudley Road Hospital, Birmingham. Our main alteration has been to abandon his method of grades of fetal heart rate abnormality and we have chosen to record the actual fetal heart rate with type I and type II dips indicated by an arrow, the point of which marks the slowest fetal heart rate during a deceleration.

After use in more than 10,000 labours we can report our experience that partograms improve the clarity of recording of intrapartum observations, and omissions or discrepant findings become high-lighted rather than lost within pages of written notes. Similarly, the failure of labour to progress is quickly recognized. The partograms are educational in that all interdependent variables of labour are exhibited on a single sheet of paper with a central cervicograph, which serves as a visual computation of these factors. This is a particularly important point for teaching hospitals with responsibility for the training of medical students and midwives. They are equally useful in the busy peripheral hospital, where they are both time-saving and more efficient.

The alert and action lines constructed from data from Rhodesian African primigravidae may need some modification. For example, we are particularly worried that a woman admitted with a cervical dilatation of 5 cm +, who subsequently develops secondary arrest, will wait too long before reaching the action line. Alternatively, the use of Friedman's curves often poses the impossible questions of the time of onset of labour and the position of the first examination along the slope of the latent phase.

These problems can be overcome by referring the admission dilatation to the following normograms of cervical dilatation in primigravid labour (see Fig). Patients admitted in labour are allocated to one of the following cohorts of admission dilatation and the cervimetric progress plotted: 0-2 cm, 3-4 cm, 5-6 cm, 7-8 cm, 9-10 cm.

Normograms of cervical dilatation obtained from a computer analysis of 1,730 consecutive labours, of which 176 were "normal" Caucasian primigravidae who were admitted in labour and did not have oxytocic stimulation, lumbar epidural block, forceps, or caesarean section.

Currently we are working on the assumption that if the patient's cervicograph reaches two hours to the right of her expected slope augmentation with oxytocin is needed. If this is a fair premise it seems from our preliminary observations at the Birmingham Maternity Hospital that approximately 30%

of primigravidae who enter labour spontaneously will need acceleration.

We believe that these cervimetric definitions of normal progress offer a precise indication of primigravidae who will need stimulation and, perhaps equally important, those that are normal and do not.—We are, etc.,

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Vasectomy in the Surgery

SIR,—Dr. E. Seiler (28 October, p. 232) describes various difficulties which he has encountered as a general practitioner attempting vasectomy under local anaesthesia in his surgery, and which have led him to the conclusion that vasectomy should be carried out only under general anaesthesia and is an unsuitable procedure for general practice. May I comment on the points he has raised?

Difficulty in locating the vas is a matter of experience, and experience can be obtained before attempting vasectomy. Every male doctor has two vasa which he can spend a few minutes locating every day. The mobility of the vas can be a problem, but the "needle fixation technique" obviates it. This method consists essentially of inserting a hypodermic needle attached to 2-ml syringe charged with local anaesthetic through the scrotal skin, under the vas, and out again through the scrotal skin about 1 cm away, so that the vas is accessible and fixed. Injection is made sparingly throughout this procedure. The amount of local anaesthetic required and the trauma caused by this method are minimal. If difficulty is found in tying the cut ends of the vas, either because the stitch slips or the ends retract from view, the ligature material should be attached to a needle and the vas transfixed before tying the ligature.

Vasectomy under local anaesthesia is not completely painless, but almost invariably the patient says it was less painful than he expected. A very common remark is that it was "less of an ordeal than going to the dentist." If it is thought advisable in a nervous patient 5 or 10 mg of diazepam can be given intravenously as premedication. Local anaesthesia is safer than general anaesthesia, is preferred by many patients, and does not require the services of a specialist anaesthetist.

Potential demand for the operation in Britain must be at least half a million.¹ Unless the operation becomes a general practice procedure it is difficult to see how the demand can be met.—I am, etc.,

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¹ Hobbs, J., *Journal of the Royal College of General Practitioners*, 1972, 22, 583.

Criteria for Free School Milk

SIR,—Dr. B. L. D. Phillips (28 October, p. 229) deserves strong support for his letter drawing attention to the need for measuring weight in assessing a child's nutrition and health. Although of course many factors affect body weight, it remains the most useful practical measure of nutritional state and

therefore is extremely valuable in supporting the clinical decision to prescribe the issue of free school milk.

It is inevitable that measurements made on children in school cannot be entirely accurate because clothing, time of day, etc. cannot be standardized. Therefore an ordinary spring scale of the bathroom type is all that is needed, since this instrument can be read very rapidly. It is of course desirable that uniform reference standards should be used for judging whether or not a child is under weight. For this purpose we recommend the so-called Harvard standards published in Nelson's *Textbook of Pediatrics* (Philadelphia, Saunders, 1969), since these are widely used by the World Health Organization. In my view careful consideration should be given to any child who is below the 10th percentile for age.—I am, etc.,

JOHN WATERLOW

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I.U.D. and Uterine Bleeding

SIR,—Excessive uterine bleeding is the main reason for the unpopularity of intrauterine contraceptive devices. The reason why they cause bleeding is uncertain,¹ but the investigation we report here suggests that there is a direct action by a water-soluble constituent of the I.U.D. on blood clotting. I.U.D.s are made from plastics and water-soluble traces of some of these affect biochemical functions.^{2,3}

We placed two Lippes loops (India) and one Antigon (Denmark) in glass bottles each containing 50 ml normal saline in glass-distilled water (hereafter called "I.U.D. fluid"). Glass bottles of identical quality, size, and shape containing only 50 ml saline (hereafter called "control fluid") were used as controls. After 1-3 days 1 ml I.U.D. fluid was removed from each bottle and put into a glass tube of 1 cm diameter. A similar quantity of control fluid was put into another tube and then 1 ml of blood was added to each. Every blood sample thus provided one paired study. Clotting was observed at 15-second intervals. In each pair the clotting time in the control fluid was taken as the standard against which to express the clotting time in the corresponding I.U.D. fluid. A control paired study was provided by putting only control fluid in each of two glass tubes to which 1 ml of blood was added. Venous blood was taken by sterile siliconized syringe and needle from 161 apparently normal women (aged 15-55 years) attending the hospital outpatient department. Blood from adult dogs was used in two groups. Chromate-sulphuric acid mixture and glass-distilled water were used for cleaning the glassware.

The number of cases in which the clotting time was delayed was significantly greater in the experimental paired study groups than in the corresponding control paired study groups, P values by the χ^2 test being 0.001 and 0.05 for human and dog blood experiments respectively. The clotting time was prolonged by the I.U.D. fluid in many more instances than it was shortened. Samples of saline in which a Lippes loop had been left for 18 months, three days, and one hour respectively each interfered with blood clotting to about the same extent. This could be explained by a low solubility of the water-soluble I.U.D. constituent. Incidentally, the contribution of this to the contraceptive effect of I.U.D.s might be worth studying.

I.U.D. fluid delayed blood clotting in about 48% of cases. About 40% of women who use an I.U.D. suffer from excessive

uterine bleeding.¹ It would be interesting to see if the results of our investigation could be related to these cases.—We are, etc.,

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1. Shirokar, V. N., in *Review of Research Work in India on Intra-uterine Contraceptive Devices*, ed. K. R. Laumas, pp. 109, 110. New Delhi, Indian Council of Medical Research, 1969.
2. Oskoui, M., *Archives Internationales de Pharmacodynamie et de Therapie*, 1968, 175, 223.
3. Jacobsson, B., and Nilsson, I. M., *Scandinavian Journal of Haematology*, 1969, 6, 386.

Canavan's Disease and Spongiform Encephalopathy

SIR,—Your leading article (19 August, p. 433) reviewing conditions associated with spongy brain describes in some detail the autosomal recessive Canavan's disease but refers only to intoxication—namely, experimental hexachlorophane poisoning in animals. In this regard the recent epidemic in France of probable talc powder intoxication is relevant in that the 90 or so reported cases manifested signs consistent with what is thought to be hexachlorophane toxicity.

Since April of this year some babies who had been treated for diaper rash allegedly with contaminated powder sustained progressively anorexia, extensor spasms, signs of decerebration, coma, and death. Results of extensive investigations were unremarkable but at necropsy massive oedema of myelin, predominantly in the deeper parts of the cortex and brain stem, with widespread cystic changes were found—that is, signs and pathology almost identical with those of Canavan's disease.

It is possible therefore that the inborn error in Canavan's disease is a defect somewhere along the metabolic pathway of a common extrinsic factor, which after a degree of exposure to that factor results in over-production of an intermediate that is toxic in excess to myelin. Notwithstanding, your fleeting reference to a toxic aetiology in animal experiments and its relegation to the bottom of the list should be reviewed. Indeed toxicity should be more often suspected as a cause of morbidity than it is.—I am, etc.,

H. PRATT

Australian Embassy,
Paris

Inappropriate Secretion of ADH

SIR,—Your leading article (26 August, p. 489) discussing the pathophysiology of the syndrome of inappropriate secretion of antidiuretic hormone states that the treatment of patients with the syndrome is by fluid deprivation and treatment of the underlying aetiology. This suggestion is probably based on the finding that (hypertonic) saline infusion does not alleviate the hyponatraemia because of prompt renal elimination of the sodium ion.¹ However, if coma is the direct consequence of hyponatraemia and water retention the physician faced with a comatose patient may wish to consider a form of therapy other than passive fluid restriction. Might not the use of peritoneal dialysis provide a rational alternative? Using normal saline as the dialysing fluid it should be possible to accelerate water elimination and

restore sodium balance, thereby hastening recovery.—We are, etc.,

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1. Bartter, F. C., and Schwartz, W. B., *American Journal of Medicine*, 1967, 42, 790.

Australia Antigen and Pulmonary Tuberculosis

SIR,—A high incidence of Australia antigen (Au/Ag) has been reported among lepromatous patients,¹ those with Down's syndrome,² and among drug addicts³ as well as in patients with other chronic diseases. We have tested patients in a sanatorium for pulmonary tuberculosis for Au/Ag by cross-over electrophoresis and have compared the findings with those in patients newly-admitted to the sanatorium, patients in a general hospital, and healthy blood donors. The results are shown in the Table.

Patients	Number Tested	Au/Ag Positive
Pulmonary tuberculosis (old patients)	427	45 (10.5%)
Pulmonary tuberculosis (new patients)	143	4 (2.7%)
General hospital	1,000	2 (0.2%)
Blood donors	1,200	2 (0.14%)

The higher proportion of Au/Ag carriers among patients with long-standing pulmonary tuberculosis compared with the new patients is statistically significant ($P < 0.025$). The difference between new tuberculosis patients and general hospital patients and blood donors is also significant ($P < 0.001$). This high incidence of Au/Ag among pulmonary tuberculosis patients could be due to a higher risk of contamination during prolonged stay in hospital or to an unknown immunological disorder, or both.—We are, etc.,

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J. GUARDIA
J. VILASECA
E. BUENDIA
J. CIVIL
R. BACARDI

Autonomous University,
Barcelona, Spain

1. Blumberg, B. S., and Melartin, L., *Archives of Internal Medicine*, 1970, 125, 287.
2. Nordenfelt, E., Kaij, K., and Ursing, B., *Vox Sanguinis*, 1970, 19, 371.
3. Rittner, Ch., Schwinger, E., Stockhausen, F. G., and Dufkova, J., *Vox Sanguinis*, 1970, 19, 280.

Gentamicin in Urinary Infections

SIR,—I note that the promotional literature of both the makers of gentamicin still recommends a dose of 40 mg eight-hourly for the treatment of urinary infections. Such doses would achieve levels in the urine satisfactory for treating simple cystitis, but the type of resident organisms one has in mind when using this agent—for example, *Pseudomonas* and *Klebsiella-Enterobacter* species—is not usually associated with uncomplicated infections. It would be wise, as indeed I am sure it is in all urinary infections, to use a dose giving adequate tissue levels.

As I have previously stated,¹² patients with pseudomonas in the urinary tract often carry it at other sites, including the bronchi and skin surfaces. In these locations a 40-mg

dose will produce negligible concentrations of gentamicin, serving only to select for resistance. For these reasons, and because I think there is far more danger of under-treatment with this drug than of toxicity, I wonder whether the time has not come to abandon the eight-hourly, 40-mg dose for urinary tract infection. The adoption of an eight-hourly, 80-mg dose of gentamicin for such infections in patients of average body weight and normal renal function would seem appropriate.

It is, of course, highly desirable that the dose should in fact be more accurately weight-related. In life-threatening infection 5 mg/kg body weight in divided doses is the minimum dosage level and even higher doses may be justified. Even in renal failure the first dose and probably the entire first day's treatment need not be reduced, though after this serum estimations will be required to control treatment.—I am, etc.,

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London W. 12

1. Darrell, J. H., and Waterworth, Pamela M., *British Medical Journal*, 1967, 2, 535.
2. Darrell, J. H., and Waterworth, Pamela M., *British Medical Journal*, 1969, 3, 141.

Call the Doctor

SIR,—Dr. J. S. W. Little (30 September, p. 831) clearly misunderstands the objectives of the yellow form issued to visitors to the United Kingdom.

The first is to alert the doctor who may be called to the fact that the visitor may be incubating some exotic infection, such as malaria, cholera, or smallpox. Secondly, imported smallpox cases are frequently admitted to general hospitals pending diagnosis. It is hoped that the yellow card, by suggesting that a visit be asked for, will reduce the number of primary contacts and lead to immediate admission to an isolation or smallpox unit, whichever is appropriate.—I am, etc.,

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Serum and Urine F.R.-Antigen in Renal Disease

SIR,—Since we¹ first realized the possible importance of the study of fibrin products in renal disease much work has been done that enables me to clarify some of the points raised by Dr. J. D. Briggs and others (14 October, p. 82).

Firstly, though it is true that fibrin products are raised in any type of shock, and might not be excreted if oliguria ensues, yet of course acute renal failure itself arises in the course of shock. Intravascular coagulation in acute renal failure indicates a very poor prognosis.² Its real importance is, therefore, in the analysis of how far the acute renal failure syndrome itself can be seen as the result of microthrombosis within the kidney. That fibrin can be found in the renal glomeruli and in the peritubular capillaries has been confirmed.³ Radiofibrinogen studies in humans⁴ and animals have been used to show that increased fibrinogen catabolism and fibrin deposition in the kidneys continues in the early days of anuria, in particular in cases of acute renal failure due to