

experiences. So far as I know absence of major side effects after the use of prilocaine has been confirmed by other workers, but no large series have been published and the drug has therefore not yet gained wide acceptance.

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Prisoners' medicine

SIR,—With reference to R F Fisher's comment (11 September, p 737) on Dr Rollin's report on *World in Action's* programme "Prisoner's Medicine" (31 July, p 372), the correspondent does not state what his or her experience is of prison medicine. I had nearly 10 years' experience and would like to question the statement: "The service is also unsafe in that the officers are not able to recognise changes in the physical and emotional state of their charges."

I worked in three different establishments, and I think it is time someone spoke for the prison officer. I found the general standard of hospital officers I worked with very high, well above that of good nursing auxiliaries. When it is realised that many of their patients have been rejected by so-called properly qualified nurses and National Health Service doctors, prison officers could be considered better fitted to look after difficult cases than many nurses.

Despite the fact that there are grounds for criticising the prison medical service and more particularly the medical directorate, the case of those doing so is unlikely to be taken seriously when it consists of simply sniping at prison officers. They have enough problems with the Home Office without others joining in.

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Antenatal screening measurements

SIR,—Steps to reduce the guesswork in antenatal care are welcome, and Dr J P Calvert and others (25 September, p 846) suggest that symphysis-fundus measurement is just such a useful additional step.

This is fine as far as it goes (and it goes much further than the casual hand on the fundus), but uterine and fetal growth are not one dimensional. The linear measurement that Dr Calvert and others cite cannot of itself give a complete picture of what is happening. For example, while the symphysis-fundus measurement may rise one week the abdominal girth measurement may fall, and vice versa. The very nature of the pregnant uterus and its contents—at any given moment having a defined volume without defined and rigid shape—means that three-dimensional measurement is necessary to complete that picture. Sadly, direct external measurement of the breadth and depth of the pregnant uterus is impossible; these borders are much more difficult to define than the fundal height, being so plastic that no meaningful readings can be made. The at-umbilicus abdominal growth is, however, much easier and is already used by many obstetricians as part of routine antenatal care, especially later in pregnancy.

What is needed is a formula combining abdominal girth measurements and fundal heights; this combination can be expressed as a three-dimensional volumetric result. With this in mind I have collected data and applied to them the mathematical model of the pregnant abdomen as a variable ellipsoid. What we shall then have is a distribution chart of abdominal volumes—surely a more accurate measurement of growth than the fundal height alone?

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SIR,—I was somewhat surprised by the conclusions of the recent article by Dr J P Calvert and others (25 September, p 846) that: "Symphysis-fundus measurement is a useful screening test; one chart could be used for any Caucasian population and should be incorporated into the maternity services 'co-operation card.'"

The reported sensitivity (64%) and specificity (84%) were not dissimilar to those found in a study¹ recently published by myself and colleagues in which, depending on selection criteria, results ranged from 52% sensitivity with 90% specificity to 69% sensitivity with 74% specificity. Yet our conclusions were very different.

A sensitivity of 64% offers some advantage over the pick-up of 49% of growth retardation by clinical assessment.² A specificity of 84%, however, means that in practice large numbers of false-positives are generated. In the article by Dr Calvert and others 71 of 100 pregnancies predicted as complicated by growth retardation resulted in the birth of a baby of appropriate weight for gestation. These false-positives are at risk of unnecessary intervention, and, at present, accurate and easily employed tests to confirm or negate the initial diagnosis do not exist. From very similar results we thus concluded that the false-positive rate was unacceptably high and the measurement of fundal height is of little use as a screening test for growth retardation.

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¹ Rosenberg K, Grant JM, Tweedie I, Aitchison T, Gallagher F. *Br J Obstet Gynaecol* 1982;**89**:447-50.
² Rosenberg K, Grant JM, Hepburn M. *Br J Obstet Gynaecol* 1982;**89**:12-5.

Changes in serum amylase and irradiation

SIR,—In the paper by Dr A Barrett and others (17 July, p 170) on serum amylase measurements made in patients with acute leukaemia treated with a massive-dose (1000 rad) total body irradiation combined with high-dose cyclophosphamide before bone marrow transplantation, the authors report acute changes in amylase activity which were due to effects of the combined treatments on the parotid salivary glands. They conclude that this parameter (serum amylase activity) may be of use in man in assessing the degree of radiation-induced damage, and they have suggested that further studies are required to correlate the dose of irradiation with the amount of parotid damage. Possible effects of cyclophosphamide

on salivary tissue and the abscopal effects of total body irradiation have not been evaluated by the authors in this report.

In this context it is fitting to point out that the radiosensitivity of parotid salivary tissue has been recognised for many decades. Thus local irradiation was commonly used in past years as a supportive measure to inhibit salivary secretion in the operative repair of parotid fistulas while preserving Stenson's duct. For example, Ellinger recommends a single dose of 500 to 600 R (roentgens) in air in his 1935 publication,¹ and every radio-therapist is aware that patients rapidly experience a dry mouth after local irradiation of the parotid gland with quite low single doses of 200 rad or even less. It is disappointing that the authors have not referred to the first important studies on serum amylase changes produced by local irradiation of salivary tissues by Kashima *et al*,² which prompted our own studies³ in 1969 at the Cancer Institute, Melbourne.

Our studies confirmed the results of Kashima *et al* and found: "That hyperamylasaemia results from irradiation of parotid salivary tissues and is a sensitive and quantitative, be it indirect, index of damage to this tissue." Progressive and irreversible loss of salivary acinar tissue occurred during radical fractionated courses of irradiation when glands were exposed in cases of head and neck cancer, which caused the hyperamylasaemic reaction to disappear rapidly. Sialogogues given before irradiation failed to affect the hyperamylasaemic response. When patients were treated with prednisolone before irradiation with a view to stabilising lysosomal membranes and lessening the radiation damage to non-proliferating acinar tissues, a modest attenuation of the response was observed, which suggested that the steroid caused a decrease in the rate of acinar cell destruction but no significant decrease of the cumulative damage to this tissue caused by local irradiation.

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¹ Ellinger F. *The biologic fundamentals of radiation therapy*. New York: Elsevier, 1911.

² Kashima HK, Kirkham WR, Andrews RJ. *Am J Roentgenol* 1965;**94**:271.

³ van den Brenk HAS, Hurley RA, Gomez C. *Br J Radiol* 1969;**42**:688.

Lasers in the beauty parlour

SIR,—I have been working with both carbon dioxide and argon lasers in head and neck surgery for several years and I agree totally with the comments of Dr M J G Thomas, made at the BMA Annual Conference and reported in the media, on the misuse of lasers. It would appear, however, that there is some confusion about which lasers are used in medical practice and which in the beauty parlour.

Within the rather ill-defined field of cosmetic surgery two high-powered medical lasers can be used. The argon laser offers a unique treatment for the portwine stain and vascular naevi. In well-trained hands the carbon dioxide laser can offer an adequate treatment for decorative and traumatic tattoos, but in expert use can result in serious scarring. The carbon dioxide laser has no place in the treatment of the portwine stain. There is significant evidence that in some private clinics the