

CORRESPONDENCE

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Pregnancy Testing

SIR,—As one of many hospital bacteriologists responsible for providing a pregnancy diagnosis service I fully endorse the view expressed by Mr. A. D. Thursz (25 September, p. 769). Indeed I am encouraged to note that a consultant obstetrician has ventured to raise this controversial matter.

I have for some time considered that it is not the place of the hospital laboratory to carry out routine tests merely to determine whether a normal state of pregnancy exists—solely for "social" reasons. We are all aware what these reasons are: for example, indiscreet behaviour by a young patient, or to know whether a state of pregnancy exists which may interfere with booked holidays abroad, etc. If the general practitioner is to be asked by his patient to request a test in these circumstances then either the test should be performed in the surgery with suitable reimbursement to the doctor, or the patient herself should meet the cost of the test done in a private laboratory specializing in this examination.

On the other hand no-one would suggest that pregnancy diagnosis tests are not totally valid in cases of threatened abortion, missed abortion, hydatidiform mole, ectopic pregnancy, testicular teratoma, and other pathological conditions where it is required to know the level of urinary H.C.G. excretion.

This laboratory carried out 4,840 tests during the last 12 months and have analysed 228 pregnancy diagnosis tests performed during the period 3 to 21 September—a total of 15 working days. One hundred and sixty-three (71.5%) of this total were for apparently social reasons and 65 (28.5%)

were for medically acceptable diagnostic purposes. Further analysis of this latter group shows that 25 out of the 65 examinations were requested by hospital specialist obstetric or surgical staff. Thus 203 out of 228 requests arose from general practice interviews of which only 40 (19.7%) were for justifiable patient-care reasons. This percentage does not warrant routine hospital laboratory examination constituting considerable wastage in terms of technicians' time and cost of materials—11.4% of our total budget for bacteriology. Microbiology units have plenty of other examinations that should be carried out were it not for time spent in the performance of these pregnancy tests, and I might add that the handling of some 40 telephone requests weekly for the results of these tests disrupts both the office staff and technical staff in the continuity of their duties.—I am, etc.,

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Listeriosis

SIR,—Dr. D. M. O. Becroft and others (25 September, p. 747) suggested that the cause of their epidemic was either a common source of infection or a coincidental incidence of inapparent infections in the community. It is not generally realized that *Listeria monocytogenes* is often found in the faeces of man and animals.^{1,2}

For a period of 18 months, using a modi-

fication of the method described by Kampelmacher,² we have investigated the presence of *L. monocytogenes* in the faeces of humans and have isolated this organism from 32 of 5,000 faeces, an incidence of 0.6%. Follow up suggested that carriage was transient, an observation already made by Bojsen-Møller.³ There have been no diagnosed cases of listeria meningitis or listeriosis of the newborn in Swansea over the past 15 years and the presence of *Listeria monocytogenes* in faeces is more likely to be a transient carriage than inapparent infection in the community.

In search for a possible source of this transient carriage, it has been found that chickens have a very high carriage rate. From 35 chickens purchased by medical practitioners in Swansea for consumption in their homes, 20 were found to have this organism on their surfaces—an incidence of 57%. Both fresh and frozen chickens were examined and both types had a similar high incidence.

Chickens are now a very common food and *Listeria monocytogenes* must, therefore, enter most homes. The fact that there is so little infection suggests that another factor is necessary, and the possibility of the potentiating effect of a toxin of *Escherichia coli*, as suggested by Rolle and Mayer⁴ is worthy of consideration.—We are, etc.,

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¹ Seeliger, H. P. R., Winkhaus-Schindl, I., Andries, L., and Viebahn, A., *Pathologia et Microbiologia*, 1965, 28, 590.

- ² Kampelmacher, E. H., and Noorie Jansen, L. M. van, *Zentralblatt Fur Bakteriologie, Parasitenkunde Infektionskrankheiten und Hygiene, I Abteilung*, 1969, 211, 353.
- ³ Bojsen-Møller, J., and Jessen, O., *Proceedings Third International Symposium on Listeriosis*, 1966, p. 415.
- ⁴ Rille, M., and Mayer, H., *Zentralblatt Fur Bakteriologie, Parasitenkunde, Infektionskrankheiten und Hygiene, I Abteilung*, 1956, 166, 479.

Reversible Sterilization in the Female

SIR,—Increasing numbers of women are being sterilized by diathermy cautery under laparoscopy control. This new technique offers many advantages when employed properly, but there are dangerous complications when it is inexpertly performed.

A disadvantage that appears to be discounted or at least accepted with equanimity is that it may destroy a very large portion of the oviduct, so that if the patient should later wish the operation reversed there would be little prospect of success. Yet it is possible to sterilize women effectively by removing only 5 mm of fallopian tube at a point near to the uterus and securing the medial cut end behind the round ligament and the lateral end in front of it.

In the unusual event that the lady changes her mind, there is, after an operation of this nature, an excellent prospect of restoring tubal patency by anastomosis and a considerable likelihood of conception.

While patients must accept that sterilizing operations cannot be later reversed with certainty, it is comforting to the young to know that tubal anastomosis offers a possibility of success if there should be a change of mind. There remains, however, a great need for simple effective temporary sterilization which no present technique well provides.—I am, etc.,

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Solar Flares and the Concorde

SIR,—Your leading article on "Solar Flares and the Concorde" (16 October, p. 127) misinterprets Molton's review of "The Protection of Astronauts against Solar Flares"¹ in several respects. Molton's statement on *Micrococcus radiodurans* refers to the capacity of this organism to survive irradiation, and not to any selective absorption of radiation by it. "Biological shielding . . . by a layer of *Micrococcus radiodurans* should thus be no more effective than by an equally thick layer of water or clothing, and such low density materials have little effect against the high energy radiations involved.

You quote the annual dose limit of 0.5 rem which is regarded by the International Commission on Radiological Protection as the maximum exposure permissible for a member of the general public. You do not note also Molton's reference to the limit of 5 rem per year that the Commission recommends, and which is widely adopted, as the corresponding limit permissible for those occupationally exposed to radiation.² On the figures which you give, the pilot's average annual exposure to the galactic component of cosmic radiation and to solar flares would be considerably below this "occupational" limit. The same conclusion was reached in a report entitled "Radiobiological Aspects of Supersonic Transport"³ which estimated

that "even if an annual crew exposure of 500 hours at [60,000 to 80,000 ft on polar routes] were assumed, an individual crew member would be unlikely to receive more than 2 rem/yr, which can be compared with the Commission's recommended maximum permissible dose of an average of 5 rem/yr for radiation workers." Very occasionally, descent to lower altitudes would be necessitated by major solar flares which might otherwise involve doses of up to 5 rem within an hour, although such rates would probably only be reached once or twice within an 11-year solar cycle and then only during flights at 80,000 ft (24,400 m) and at polar latitudes at which exposures are greatest. For this reason, however, instruments are being carried in Concorde to detect any such major rise in radiation levels at an early stage so that a deliberate descent can be made before any substantial exposure has occurred.—I am, etc.,

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- ¹ Molton, P. M., *Spaceflight*, 1971, 13, 220.
- ² International Commission for Radiological Protection, *Report of Committee*, 1966, Oxford Pergamon Press, Publication No. 9.
- ³ *Health Physics*, 1966, 12, 209.

Alcohol and Glibenclamide

SIR,—We were surprised by the comments made by Dr. E. N. Wardle and Dr. G. O. Richardson (31 July, p. 309) on the frequency of flushing after alcohol in patients taking glibenclamide. In our opinion, freedom from this side effect is the one clear clinical advantage of this drug compared with chlorpropamide.

We have treated 85 patients with glibenclamide and none have complained of any adverse symptoms after drinking alcohol. Direct questions have been put to 75 of the patients and none of the 55 who said they had drunk alcohol had appreciated any disturbing sequel (apart from a woman aged 63 who said that after a glass of beer she felt tired and went weak at the knees). These patients included nine who developed flushing, with other symptoms of varying severity, when receiving chlorpropamide.

The studies reported at the conference on glibenclamide¹ have been continued, and we have now questioned 77 diabetics currently receiving chlorpropamide about their alcohol intake and any untoward consequences. Of 47 who acknowledged that they had taken alcohol while receiving this treatment 20 (42%) had suffered from flushing. Several of those who took alcohol only occasionally had, while realizing that their response to it had altered, failed to associate the change with the start of chlorpropamide therapy.

The visible flush is usually accompanied by a sensation of unpleasant heat over the head and upper trunk. This is often only one feature of the reaction, which may be extremely distressing with malaise, headache, retrosternal oppression, palpitations, fatigue, and faintness. The changes become apparent within a few minutes and are maximal after about 15-30 minutes. It may be several hours before the malaise has fully passed off. The speed and severity of reaction are often striking: "I cannot take even a sip of whisky"; "I could not finish the drink." The disturbance is similar to that which occurs

when alcohol is taken by those receiving disulfiram (Antabuse) and Royer *et al.*² have considered chlorpropamide as an alternative to this drug in the treatment of alcoholism.

Diabetic patients have to accept many restrictions and it seems unjustifiable to add to them unnecessarily. We feel that, if the use of one of the more potent sulphonylurea drugs is being considered for a patient who is in the habit of taking alcohol, glibenclamide should be used initially rather than chlorpropamide despite the somewhat greater cost.—We are, etc.,

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- ¹ Galbraith, H.-J.B., *Postgraduate Medical Journal*, 1970, 46 (December Supplement), 95.
- ² Royer, P., Royer, R., Tonnel, M., and Mabile, P., *Annales Médicales de Nancy*, 1964, 3, 887.

Amniotic Cell Culture

SIR,—The observations of Mr. M. E. Ferguson-Smith and others (9 October, p. 69) that cultures of amniotic fluid cells are most easily obtained from specimens taken between 14 and 30 weeks after the last menstrual period can be correlated with the presence of two morphologically distinct types of cell in the fluid.¹ Though the marked increase in the number of cells which occurs during the fourth month of pregnancy² is probably largely due to the detachment of cells from the surface of the fetal epidermis, in specimens obtained during the fifth month phagocytic cells can also be identified in the fluid.³ These can be equated with the smaller of the two types of cell described by Van Leeuwen *et al.*¹ and are probably much easier to grow in vitro than the cells shed from the surface of the epidermis.

The source of the phagocytic cells has not yet been fully established, but it has been suggested that they are formed from clumps of cells which become detached from the amniotic epithelium.³ The cells of this epithelium are formed from the inner cell mass and also from the trophoblast⁴ and probably possess the same genetic characteristics as those of the fetus. The derivation of the cells which can be cultured from specimens obtained by amniocentesis from this epithelium would therefore be unlikely to affect the validity of this method of approach to the determination of the sex of the fetus and to the detection of chromosomal abnormalities such as those associated with Down's syndrome. However, polyploid cells are very common in the amniotic epithelium,⁵ and it is possible that the tetraploidy found in one of Mr. Ferguson-Smith's cultures and in other studies^{6,7} was due to the amniotic origin of the cultured cells rather than to the occurrence of this kind of abnormality in the skin or other tissues of the fetus.—I am, etc.,

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- ¹ Van Leeuwen, L., Jacoby, H., and Charles, D., *Acta Cytologica*, 1965, 9, 442.
- ² Wahlström, J., Brosset, A., and Bartsch, F., *Lancet*, 1970, 2, 1037.
- ³ Hoyes, A. D., *Journal of Obstetrics and Gynaecology of the British Commonwealth*, 1968, 75, 164.
- ⁴ Hertig, A. T., Rock, J., and Adams, E. C., *American Journal of Anatomy*, 1956, 98, 435.
- ⁵ Schindler, P. D., *Acta Anatomica*, 1961, 44, 273.
- ⁶ Kohn, G., and Robinson, A., *Lancet*, 1970, 22, 778.
- ⁷ Walker, S., Lee, C. L. Y., and Gregson, N. M., *Lancet*, 1970, 2, 1137.