Correspondence

Because of heavy pressure on our space, correspondents are asked to keep their letters short.

Radiological Hazards

SIR,—A committee was set up last year by the Secretary of State for Scotland and the Minister of Health "to review the present practice in diagnostic radiology and the radiotherapy of non-malignant conditions, with the object of considering the hazards involved." This review was recommended by the Medical Research Council in their report on "The Hazard to Man of Nuclear and Allied Radiations," for they found that medical radiology is in fact the chief source of the extra radiation to which we are now exposed. They emphasized the genetic damage which might be caused by irradiation of the gonads, and it is this damage with which our committee is chiefly concerned. Its importance is difficult to assess, but it means that we must not neglect even very small sources of radiation.

Since I fear that our inquiries are bound to add to the work of busy people I hope you will allow me to describe the investigations which we have in mind. Our first requirement is a more accurate estimate of the amount of gonadal radiation over the whole population, for the genetic hazard depends ultimately on the total rather than on the individual dose, and we must know the present figure if we are to keep in touch with future developments. To obtain such a base-line we need a survey of the total number and type of x-ray examinations carried out within a given period, followed by estimations of the gonadal dose in a representative sample.

We have already sent out detailed questionnaires to make a census of all medical and dental procedures involving x rays and radioactive substances, and a similar more limited inquiry will be made six months hence to take care of any seasonal fluctuations which might affect the result. To measure the probable dose to the gonads in different radiological procedures we are asking a number of hospital physicists to make a detailed investigation in a sample group of about 100 hospitals. This will enlarge the excellent surveys which have been carried out already in particular departments, and when it is finished we shall have a figure for the total gonadal radiation in this country which should be at least more accurate than any former estimates, here or elsewhere.

We are told that any exposure of the gonads may induce some mutations and that all mutations are more likely to be harmful than beneficial. But medical radiology must not be unduly hampered; the possible harm to the race must be set against the certain benefit to the individual. We must aim, however, at reducing all unnecessary exposure of the gonads, and with this in view the committee has formed small specialist groups which are to consider individual procedures in different clinical fields and to suggest measures for improving their safety.

In seeking through your columns to put this information before the profession as a whole, my committee hopes to enlist the interest of all those whose work touches on the use of x rays and radioactive substances. We are fully aware of the inconvenience and extra work we are causing, and we have learnt with regret of occasional failures in our arrangements for giving notice of the survey. But we believe that the final result will justify what we are doing. We live in a period when a rise in the level of man-made radiation cannot be ruled out and ought not to go undetected. It is disturbing to think that medical radiology may be causing unnecessary exposure of the gonads and that it may cause more if we take no steps to measure the present level. We hope that all doctors and dentists will co-operate with us in our work.—I am, etc.,

Cambridge.

ADRIAN.

Danger of Iso-immunization from Intramuscular Blood Injections

SIR,—A recent case has illustrated the danger of iso-immunization to a blood-group antigen (in this case Rhesus D) from the intramuscular injection of donor blood. Blood was being matched for a male patient prior to operation for partial gastrectomy and the patient was found to be group B Rhesus D-negative (d). Since there was no history of previous blood transfusion and repeated transfusions were unlikely, group B Rhesus (D)-positive blood was matched as well as group B Rhesus-negative blood (cde). The latter was compatible, but the former incompatible by the indirect anti-globulin (Coombs) technique. Subsequent investigation showed that there was anti-D present in the patient's serum in the incomplete form detectable by the albumin and by the indirect anti-globulin technique.

The behaviour of the anti-D suggested that it was an immune type of antibody, but there was no history of a previous blood transfusion. Detailed investigations subsequently have failed to reveal any previous transfusion of blood, but 27 years ago the patient did receive two intramuscular injections, each of 10 ml. of malarial blood, for treatment of general paralysis of the insane.

While intramuscular injections of donor blood are probably not now given on a large scale, the danger of blood group iso-immunization should be kept in mind. The writers have in fact encountered a case of severe haemolytic disease of the newborn in a first pregnancy in a Rhesus-negative woman who had never received a transfusion of blood, but had previously been treated with intramuscular injections of her husband's blood (Rh D-positive).—We are, etc.,

IAIN A. COOK.
JOHN WALLACE.

Glasgow.

SIR,—The recent correspondence in the *Journal* on "The Hurt Brain" draws attention to the fact that, though most venereologists and psychiatrists use penicillin alone or with other drugs for the treatment of neurosyphilis, there are still some who also use malaria therapy for selected cases.

A recent case seen by one of us developed a severe haemolytic anaemia of idiopathic acquired type during malaria therapy. During the serological investigation of the acquired haemolytic anaemia the patient's serum was found to contain the immune Rhesus antibody anti-D active at 37° C. in saline and albumin. The only history of exposure to red-cell antigens was the intramuscular injection of malarial blood some three weeks previous. A sample of blood from the donor of the malarial blood was obtained and this grouped as O, CDe/CDe. In view of the absence of transfusion history and in the fact that the anti-D gave the characteristics of an immune antibody, we feel the source of the immunization was the malarial blood.

The literature contains few references to immunization by intramuscular injection of blood, and the only proved cases known to us were reported by Thomson and Walsh¹ and van Loghem.² Subsequent inquiries of users of malarial blood leads us to believe that the possibility of immunization by intramuscular injection is not fully appreciated.—We are, etc.,

Doncaster.
Sheffield.

A. L. HILTON.
G. OWEN.

REFERENCES

- 1 Thomson, E. F., and Walsh, R. J., *Med. J. Aust.*, 1950, 1, 440.
- 2 van Loghem, J. J., *British Medical Journal*, 1948, 2, 326.

Women's Footwear

SIR,—A few weeks ago, as I left a lecture in the West End on Eastern colour prints and went into the darkness of the streets, I was faced with a series of such brilliantly lighted windows that for a moment I thought I was still in the lecture hall. I looked again and thought that these were a series of magnificent modern paintings. This was not the case. I looked again more closely and thought I was looking at a museum of ladies' shoes. Even this was not the case. I looked even more intently at a window and saw