

ence of a humoral factor involved in the regulation of the lymphocyte level in the blood, and that this factor stimulates rather than inhibits lymphocyte production. None of this evidence conflicts with the hypothesis of Dr. Vincent and Dr. Gunz, which would provide for a very satisfactory feedback control mechanism except for the suggestion that the passage of lymphocytes with the recognition site (R.S.) through the recognition "gate" produces an inhibitor of lymphocyte proliferation. If this part of their hypothesis were altered so that the amount of lymphopoietin produced was inversely proportional to the numbers of normal lymphocytes with intact R.S. passing through the recognition gate, then the two hypotheses could be combined to produce a single hypothesis which would account for most of the experimental data.

University Department of Medical Genetics,
Royal Infirmary,
Manchester M13 9WL.

J. TIMSON.

EFFECT OF PSYCHOTOMIMETIC AGENTS ON SEX RATIO?

SIR,—In their investigation of the teratogenic and chromosomal effects of lysergic acid diethylamide (L.S.D.) ingested during pregnancy, Dr. Aase and his colleagues (July 11, p. 100) found that the entire series of ten offspring were female. The probability of all ten pregnancies resulting in children of the same sex is 1/1024.

Shearer et al.¹ and Taylor² found that women who became schizophrenic within one month of conception gave birth to female infants only. The alteration of the normally expected secondary sex ratio found in each study was significant at the 0.001 level. The similarity of the results in these three series is suggestive of a common aetiological basis for the changes in secondary sex ratio which follow L.S.D. use and those after onset of schizophrenia during the first month of pregnancy. This similarity is further accentuated by the fact that in at least seven of the ten women in the Aase series, L.S.D. was taken during the first month of gestation.

While there are no published reports of biochemical investigations of this phenomenon in schizophrenic women, Healy et al.³ proposed a hypothesis based on alterations in electrochemical cell-surface charges. Placental fibrinoid normally has a negative cell-surface charge which prevents antigen detection and protects the fetus by repelling negatively charged maternal lymphoid cells. It was postulated that increases in antibody levels, which have been found by various workers at the time of onset of acute schizophrenic symptoms, result in detection of the fetal tissue as antigenic.

Renkonen⁴ has suggested a basic histoincompatibility between male fetuses and their maternal hosts. It may be that the heightening of immunological response during the onset of schizophrenia enhances this basic antagonism towards the more foreign male fetal tissue, while the female fetus is preserved by virtue of its greater histological similarity to the mother. Perhaps the alteration in secondary sex ratio found by Dr. Aase and his colleagues was produced by the same or a related process.

In 1966, Hoffer⁵ said that "The same factors that lead to a psychotomimetic reaction in normal people probably lead to the psychosis features of schizophrenia." Although the concept of psychotomimetically induced "model psychosis" has fallen into disrepute, the above considerations

seem to indicate that research and re-evaluation may be warranted.

Queens Children's Hospital,
Bellerose, N.Y. 11426.

JOAN M. HEALY.

Psychology Department,
St. John's University,
Jamaica, N.Y. 11432.

PATRICIA L. VAN HOUTEN.

REGULAR HÆMODIALYSIS AND RENAL TRANSPLANTATION

SIR,—Mr. Clunie and his colleagues (July 4, p. 39) draw attention to the higher mortality-rates following cadaveric renal transplantation than those in patients on regular hæmodialysis. We agree that the justification for offering renal transplantation in these circumstances deserves more discussion. Though it may be considered invidious to compare the results of two forms of treatment which should be regarded as complementary, we believe the reasons for the difference in mortality-rates are relevant to the future operational policies of renal units.

Vacant spaces in our own ten-bedded hospital dialysis unit are at a premium. When a suitable cadaver kidney becomes available, the predictions of tissue-typing are frequently equivocal. The choice of recipient is then heavily biased in favour of a patient who is not making satisfactory progress towards home dialysis. Such patients are generally less fit than those who have succeeded in regaining a useful and independent life on home dialysis, but a higher operative risk is acceptable when the chances of worth-while survival seem otherwise poor. Similarly, there is a tendency to take greater risks with immunosuppressive therapy in the prevention of allograft rejection when home dialysis is not a feasible alternative. Such factors undoubtedly contribute towards the apparently less favourable results of renal transplantation.

However, the mortality-rate in patients accepted for treatment by a renal unit will depend to a large extent upon the stringency of the criteria employed in their selection. If, for example, only patients who are good candidates for home dialysis are accepted for transplantation, the hazards are likely to be reduced and the facilities of the hospital unit are less likely to be overburdened by patients awaiting transplantation, and re-transplantation. On the other hand, such a policy would deny some patients the chance of a successful transplant. Moreover, it is unrealistic to consider mortality-rates only in terms of the patients actually selected for treatment, without any regard to the total demand. Thus, in terms of patient survival, a 40% mortality-rate in 100 patients accepted for treatment is preferable to a 20% mortality-rate achieved by applying criteria which would exclude 50 of these patients.

It is, of course, difficult to formulate any rigid policies when substantial improvements in the management of chronic renal failure continue to be made. In a hospital hæmodialysis unit such as our own, providing a regional service, it remains our general aim to accept all patients referred to us who seem suitable for either home-dialysis training or renal transplantation. At present, however, we feel that renal transplantation should be avoided in patients doing well on home dialysis unless the chances of success appear very favourable and the patient, after an unbiased discussion of the chances of success, is clearly anxious to try his luck. The supply of suitable cadaveric kidneys is restricted, and we appreciate that this policy must prejudice the mortality-rate following renal transplantation¹; but the selection of a home-dialysis patient as the recipient does not increase the total number of patients with chronic renal failure being treated. While facilities remain inadequate it seems more appropriate to consider the most effective use of

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4. Renkonen, K. O. *Acta genet.* 1964, 14, 177.

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