I can hardly imagine how he can regard such fear as inexplicable (*Webster*: "incapable of being explained or interpreted, mysterious"; *Shorter OED*: "that cannot be explained, unintelligible, unaccountable"). Even if therapeutically effective, is it really so difficult to think of any possible reason why a patient might grow fearful of receiving ECT without anaesthetic?

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Oesophageal cancer

SIR,—Your leading article (17 July, p 135) on oesophageal cancer is welcome in drawing attention to the importance of dysphagia in this disease. As you so rightly state, it is a symptom requiring urgent investigation.

However, to suggest that radiotherapy is the preferred treatment for middle third lesions is incorrect. From the surgical point of view there is no difference in treating middle or lower third lesions. The disadvantage with radiotherapy is that symptomatic relief is given, but the patient all too frequently returns with dysphagia due to tumour at the original site. Successful treatment at this stage is impossible. Surgery and further radiotherapy are not feasible. As a result a tube is inserted to enable the patient to swallow saliva and fluid nutrition. This is poor palliation and does not improve the quality of life. In contrast, with oesophagectomy it is unusual for the patient to develop recurrent dysphagia, and a normal diet may be taken, one of the few pleasures many elderly people have left. Although the five-year survival rate with surgery is not good, the quality of life, a matter stressed in your leader, in the majority of patients is good.

Undoubtedly radiotherapy has a place in the treatment of oesophageal cancer, though at present it is not the preferred treatment of middle third lesions. The results in oesophageal cancer can be improved, and the first step is to investigate urgently all patients with dysphagia.

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Preventive nutrition

SIR,—It is encouraging to find that preventive nutrition has found a place among your leading articles (17 July, 134), but I believe there is a better way of putting this aspect of nutrition on to a sound footing than by upgrading dietitians, and which would encourage students and young doctors to take a real interest in the subject and would also be of value to the dietitians. This is to introduce consultant nutritionists into the community health side of the NHS at district level, so that they can work both with the population and with other colleagues.[1] At present they tend to be rather remote in academic and research posts.

A major justification of this proposal is the challenge of the great increase in deaths from coronary artery disease in the UK from approximately 1000 per year in 1921 to about 96 000 per year in 1961.[2] The existing emphasis on lipid biochemistry needs to be balanced by field studies of the diet of individuals, especially the effect of the large degree of processing and use of preservatives and additives.[3] There are also regional differences in the death rate of this disease which are wide open to study. There was an SMR between 1954 and 1958 in the UK among women of 145 per 1000 in such places as Aberdeenshire, East Lothian, and Wigtownshire, but only 70 per 1000 among women in East Cambridgeshire and Rutland and from Montgomeryshire to the north-west coast of Wales around Caernarvon. Differences of these magnitudes do not happen by chance.[3] Nutritionists working in these areas as part of the local staff of the NHS should be able to find answers to some of these differences which would greatly assist in prevention.

There are other field nutritional problems, for example, among the aged, the neurotic, the mentally subnormal, the sociologically abnormal; rickets among all races; and the growth and nutrition of all normal young people.[4] In all these a consultant nutritionist at local NHS level, with the help of dietitians, would find full scope for his expertise. Together they would be far more effective than either alone.

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[1] *Report of the Agricultural Research Council/Medical Research Council Committee*. London, HMSO, 1974.
[2] Witts, L J, *Medical Surveys and Clinical Trials*. London, Oxford University Press, 1963.
[3] Agricultural Research Council/Medical Research Council Committee, *National Atlas of Disease Mortality in the United Kingdom*. London, Nelson, 1963.
[4] Taylor, R Y, *Public Health*, 1966, **80**, 146.

The placenta as an immunological barrier

SIR,—Your leading article (24 April, p 975) summarises the expanding knowledge concerning the hormonal functions of the placenta, but we would like to comment on a further related function which may prove to be of some importance.

It is now generally accepted that the fetus is an allograft but the mechanism which prevents its rejection by the mother is uncertain. The fetus is separated from the mother by the placenta, and the mechanical barrier between the two circulations clearly plays some part in protecting the fetal allograft. We have previously[1] suggested that the protection of the fetal allograft cannot be solely ascribed to the mechanical barrier afforded by the placenta, as the placenta is permeable to a wide range of substances, including certain antibodies. It is likely, therefore, that there is some form of immunological tolerance between mother and fetus.

Maternal lymphocyte function is depressed in pregnancy as measured by the reduction in PHA-induced transformation,[1 2] and this could form part of the tolerance mechanism. Several factors have now been isolated which act as lymphocyte depressants and these include chorionic gonadotrophin, α-fetoprotein, and prolactin. We have recently repeated and confirmed the work of Riggio *et al*[3] and have extracted a glycoprotein from the placenta which depresses PHA-induced lymphocyte transformation. It is more powerful than the other lymphocyte inhibitors and at a concentration of 5 mg/ml PHA-induced lymphocyte transformation is almost completely blocked. Sephadex gel filtration separated the extract into four fractions, and the most active of these was the fraction of molecular weight 8000-20 000. The size of the molecule indicates that it is distinct from chorionic gonadotrophin and α-fetoprotein. Further chemical characterisation studies are in progress.

The placenta therefore secretes at least two factors which depress maternal lymphocytes and may induce tolerance to fetal tissues, and so plays a part in protecting the fetal allograft. The placenta is clearly a much more complicated organ than was realised a few years ago. It has long been appreciated that it acts as a purely mechanical barrier between mother and fetus, but the evidence is now growing that it also acts as a much more sophisticated immunological barrier between mother and fetus. It is likely that the placenta will eventually be shown to play a crucial role in protecting the fetal allograft from rejection by the maternal immune system.

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[1] Finn, R, *et al*, *British Medical Journal*, 1972, **3**, 160.
[2] Purtilo, D T, *et al*, *Lancet*, 1972, **1**, 769.
[3] Riggio, R R, *et al*, *Transplantation*, **12**, 400.

Cold extremities and beta-blockers

SIR,—The recent article of Dr A J Marshall and others (19 June, p 1498) reporting the increased incidence of cold hands and feet due to beta-blockade confirms other reports in the literature. In addition the authors suggest that propranolol is more frequently implicated than other beta-blockers as also did Zacharias.[1] However, it would appear that none of the patients of Marshall *et al* had the symptom prior to treatment, which seems a little surprising when considering the average age and state of the vascular tree of most patients on beta-blocking drugs.

In Dundee we have been conducting a survey of patients in the area who have had this form of therapy. The majority have a diagnosis of hypertension or angina and 171 have been seen so far. Of these, 54 have been on a combination of beta-blockers, but 19 have been on practolol alone, 42 on propranolol alone, and 56 on oxprenolol alone.

Considering those 117 patients who have been on one beta-blocker only, 22 admitted to cold extremities before treatment and a further 18 have developed symptoms since starting treatment. Five of those already having symptoms stated that the drug made their symptoms worse—that is, 23 patients have been affected. Both the normal group and the group developing symptoms have been on therapy for a comparable period of time. Before beta-blocker treatment significantly more females, 18 of 63 (29%) as compared to 4 of 54 (7%) males, complained of cold extremities ($P < 0.05$). After treatment, although a higher incidence was found in females than males, this difference was not significant. The total number affected after treatment who were over 60 years of age was 17 of 60 compared to 6 of 57 in the under-60s, a difference significant at the 5% level.

The proportion of patients who were affected by the beta-blocker were as follows: 9 of 42 (21%) on propranolol, 2 of 19 (11%) on practolol, and 12 of 56 (21%) on oxprenolol. So far there is no evidence from our survey