OTHER NUTRITIONAL FACTORS

I would not wish to close without making at least a cursory allusion to nutritional factors other than vitamins, lest I might seem to convey the impression that vitamins alone mattered. Among the most striking of recent work is that of Mackay,^{23 24} who has shown how surprisingly common is iron deficiency in infants, and has published a convincing account of the beneficial effects of its administration in such cases. The observations, too, of Corry Mann²⁵ on the unique nutritional properties of milk for school children, work which has since been amply confirmed up and down the country, call for special mention.

THEORY AND PRACTICE

In conclusion, we must realize that our problem cannot be divorced from economic realities. Calculation shows that the cheapest diet for bare sustenance costs about 5s. to 7s. a week for an adult, or about 3s. to 4s. for a child.^{26 27} This figure assumes a knowledge of how to choose food to the best physiological advantage, and also the opportunity of purchasing it in the cheapest markets. Yet it has been shown that even this minimal sum is beyond the reach of many of the unemployed, whose income falls short of that amount after deducting only for rent, and making no provision whatsoever for such necessities as clothes, heating, etc.²⁸ The fault here lies not with science, but largely in the mal-organization of society, and sometimes too in a failure to apply or to realize the knowledge which science has already won. In America it has been found worth while to employ whole corps of "nutritionists," whose function is to advise the public authorities as to nutritional conditions and local needs, and to instruct households on the outlay of their budgets.

A summary of these conclusions will be given in the previously mentioned paper.

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A CASE OF UNUSUALLY HIGH EOSINOPHILIA
OF OBSCURE ORIGIN

BY

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As the case reported below presents several interesting clinical features and diagnostic difficulties it was thought worthy of being put on record.

CASE HISTORY

A male, aged 39, shopkeeper by occupation, early in May, 1932, noticed himself unusually tired when the day's work was over. Although he worked hard, he had never noticed any ill effects before. As time went on he found himself becoming more and more tired each evening, until early in October he decided to seek medical advice.

His father, aged 78, and his mother, aged 71, are in excellent health; five sisters and one brother are alive, and are all in good health; one sister died of meningitis at the age of 21. He has never been ill in his life except for whooping-cough at the age of 7. He has never been out of Ireland, is very abstemious in his habits, and lives an outdoor life.

When I saw him he complained of weakness, a feeling of nausea, and pains in his epigastrium occurring about one hour after food. He looked anaemic and his skin was sallow; he said he had lost weight. On examination I could elicit nothing abnormal in his abdomen. Liver and spleen were not enlarged. Lungs were normal, but his heart was enlarged and a mitral systolic murmur was present. Urine contained no albumin or sugar. There was no blood in the stools. Reflexes were normal. I gave him a bismuth mixture, and

asked him to come back in a week's time. Three days later I was called to see him, and found him in bed complaining of exhaustion and pain in the epigastrium. Examination of the abdomen was again negative, and I sent him into hospital for x-ray examination. A barium meal revealed no evidence of gastric or duodenal ulcer, but, on screening, his heart was definitely enlarged. A blood count was then done, showing an eosinophilia of 55.5 per cent. and a red blood count of 2,960,000 per c.mm. With this high eosinophilia I thought it most likely he had a tapeworm, but the usual treatment with ext. filix mas yielded no result. After an interval of three days I again gave him one drachm of ext. filix mas, followed one hour later by a similar dose, but his stools were negative. He was also given santonin, but there were no roundworms or threadworms. Urine and faeces were examined for ova, with negative results.

The report on a gastric test meal was as follows: "Free hydrochloric acid, 40 per cent.; total acidity, 65 per cent.; lactic acid test negative; occult blood reaction positive. There is a small amount of mucus containing flakes of blood. This effect could, I consider, be produced by straining, and if there was difficulty in withdrawing the specimen I would not attach importance to the presence of blood."

His general condition was gradually becoming worse, and, after about a fortnight's stay, he decided to leave the hospital and returned home. Whilst in hospital his temperature went up once or twice to between 99° and 100°. After a week at home his temperature varied each evening between 101° and 102°. He became increasingly restless, and complained very much of insomnia. His anaemia was very pronounced, and I gave him ventriculin by the mouth, alternating this with hepatex intramuscularly. He was now entirely confined to bed, and his liver could be distinctly felt almost a hand's breadth below the costal margin. The stomach symptoms, which had been so marked a feature in the early stages, had now disappeared, but his general condition was very much worse, and he complained of exhaustion

and suffocation. I decided as a last resource to give him 5 grains of quinine sulphate every four hours to steady his temperature, and in the hope that the resulting leucocytosis might be helpful. After continuing this for five days he said he felt better, his temperature became normal, and he felt less exhausted. I then reduced the quinine to 10 grains in twenty-four hours, and he gradually improved, until at the end of three weeks he got up and felt very much better. The quinine was then stopped, and his temperature did not go up again. The liver extracts were continued. He has maintained his progress since, but is still on liver treatment. The following represent the results of the later blood films.

October 20th, 1932.—R.B.C. 2,960,000 per c.mm. W.B.C. normal; differential count: neutrophils 31 per cent., eosinophils 55.5 per cent., lymphocytes 12.5 per cent., monocytes 1 per cent. Haemoglobin 50 per cent. Colour index 0.8. *Remarks:* R.B.C. vary in size, but regular for such low count.

November 14th, 1932.—W.B.C. normal; differential count: neutrophils 33 per cent., eosinophils 55 per cent., lymphocytes 12 per cent.

December 23rd, 1932.—R.B.C. 3,000,000. W.B.C. 12,600; differential count: neutrophils 16 per cent., eosinophils 55 per cent., lymphocytes 27 per cent., monocytes 2 per cent. Haemoglobin 60 per cent. Colour index 1.

February 8th, 1933.—R.B.C. 3,490,000. W.B.C. 17,500; differential count: neutrophils 10 per cent., eosinophils 78 per cent., lymphocytes 11 per cent., basophils 1 per cent. Haemoglobin 80 per cent. Colour index 1.1. *Remarks:* R.B.C. show anisocytosis. Numerous cells 8 to 10 microns. No nucleated R.B.C. No polychromasia. Reticulocytes numerous.

March 1st, 1933.—R.B.C. 3,300,000. W.B.C. 20,000; differential count: neutrophils 12 per cent., eosinophils 76 per cent., lymphocytes 12 per cent. Haemoglobin 65 per cent. Colour index 1. *Remarks:* Reticulocytes numerous. R.B.C. as above.

May 8th, 1933.—R.B.C. 3,390,000. W.B.C. 12,000; differential count: neutrophils 9 per cent., eosinophils 73 per cent., basophils 1 per cent., lymphocytes 13 per cent., monocytes 4 per cent. Haemoglobin 70 per cent. Colour index 1. *Remarks:* The red cells vary in size from 6 to 10 microns. They are regular in shape. No myelocytes found.

DIAGNOSIS

With the definite absence of tapeworm the diagnosis of this case presents a very difficult problem. There is no history of eating raw pork, and there are certainly no signs of trichinosis. Although there was nothing in the history to suggest ankylostomiasis he was given 30 grains of thymol in three successive doses, with negative results. There are no symptoms of filarial infection. There is no localized tumour. No hydatid thrill can be elicited in the liver, and a negative complement-fixation test for echinococcus eliminated the possibility of a hydatid cyst being deeply embedded in the liver substance. Cancer of the liver can be ruled out in view of the patient's improved condition, the absence of jaundice and of any cachectic signs, and the smoothness of the liver surface. Syphilis was thought of, but the Wassermann test was negative. There is no history of gonorrhoea. He never suffered from asthma, any skin disease, or pediculosis.

Recently a few cases of inherited eosinophilia have been reported, but his excellent family history does away with this possibility. Blood cultures were negative. Examination for malarial parasites was negative. The various agglutination reactions for enteric and Brucella groups were negative. The one definite thing about his present condition is his tendency to go down the hill when he is not taking liver in some form. One might therefore reasonably assume that if this were discontinued he would most probably develop pernicious anaemia, considering that even with active liver treatment his red blood count is only about 3,400,000 per c.mm. It is unlikely that the condition is one of the so-called eosinophil-leukaemias, as the total leucocyte count is relatively low. I consider this an unusually interesting case, and am forced to regard it as one of pernicious anaemia with an extraordinarily high eosinophil count.

In conclusion, I wish to thank Dr. W. J. O'Donovan of the pathological department, University College, Cork, for so kindly placing his services at my disposal in gratuitously carrying out many blood examinations and other tests in this case.

ORAL ADMINISTRATION OF NEMBUTAL AS A PRE-ANAESTHETIC MEDICATION

BY

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In embarking upon the pre-anaesthetic administration of nembutal I did so somewhat prejudiced against the drug, as I considered all forms of pre-medication, excluding the use of atropine, to present more difficulties than advantages. It is true that some patients are easily anaesthetized, show no ill effects afterwards, and present no difficulties during anaesthesia when they have previously had a dose of hyoscine or morphine or both. On the other hand, one is often embarrassed by a patient with extremely shallow breathing—even to the point of suspended respiration—when administering ether after hyoscine, and, less frequently, after morphine. The continuous use of CO₂ in such cases may be necessary, but it is none the less undesirable.

There is, of course, no doubt that McGill, who introduced nembutal to this country, gets good results by its intravenous use, but many of us prefer a drug which is not administered in this way, provided that an accurate dosage is possible. In the belief that intravenous medication is only introducing one more danger and complication into the field of anaesthesia, I have set out to explore the uses of the oral administration of nembutal. The results of a 100 consecutive cases are given below, and these include the first few cases, which were deliberately underdosed. There is no harm in giving an underdose of this drug provided that the patient has not been told to expect an amnesia for the time of operation. A small dose calms the patient's fears considerably, and is of definite use.

One of my earliest experiences with nembutal was with a retired Army major, who had been previously primed with regard to the wonders of this drug. At his request I consented to administer it, and he awoke twenty minutes after the operation, spending the remainder of the day ringing his bell for a nurse merely to say, "I'm not asleep, and I ought to be!"

INDICATIONS AND TECHNIQUE

In the first place I consider it essential that the anaesthetist should see the patient previously and himself assess the dose. To be shown a sleeping patient to whom nembutal has already been administered and to be asked to anaesthetize him without awakening or examining him is not only embarrassing, but definitely unfair to both anaesthetist and patient, although one would undertake it in the case of a straightforward surgical procedure in a healthy patient who lives at a long distance after a telephone conversation with his physician.

The nembutal should be given by mouth in cachets, with a small drink of water* one hour before operation. At the same time the patient should have a subcutaneous injection of atropine, and, if not to be anaesthetized in bed, be placed on a stretcher or trolley. The dose varies from 3 to 6 grains—occasionally 1½ grains is sufficient to answer a purpose. It is often advisable to allow the patient 1½ grains on the night before operation. If this last course is adopted it must be reckoned with in prescribing the dose for the next morning.

In assessing the dose one must consider: (1) Sex. (2) Age. (3) Body weight. (4) Physical fitness (being wary with toxic patients, particularly if they have septicaemia).

* Even after a patient has had his stomach washed out for a gastrectomy there is no harm in doing this. It is effective, and is a great comfort to him.