Vitamin C and the Common Cold

Stir.—An article appeared in the Sunday Times of 14 February in which Dr. Linus Pauling's book Vitamin C and the Common Cold was discussed. During the past six years a programme of research has been carried out in this department on various aspects of the metabolism and action of vitamin C, and several papers have now been published describing the results.3

In discussing the relationship between the administration of supplementary vitamin C and the appearance of symptoms of the common cold, Dr. Pauling referred to the results of these investigations in his book. Any discussion about vitamin C and the common cold must take into account the human requirements for exogenous vitamin C. The United Kingdom Panel on Recommended Allowances of Nutrients points out that the official requirements for vitamin C are specified as only sufficient for growth and development and the maintenance of health.

It was stated in the Sunday Times article that many trials have been carried out in an attempt to investigate the relationship between administration of supplementary vitamin C and control of the common cold. The results of these trials have been reviewed in Nutrition Reviews9 and more recently by Regnier.10 Examination of the results of these trials makes two points evident: the first is that all the trials measured the relationship between the appearance and severity of symptoms of the common cold and the administration of various doses of supplementary vitamin C for varying periods to different populations.

In addition, Dr. Odumosu and Wilson's trial12 attempted to measure the relationship between viruses associated with the appearance of common cold symptoms and administration of supplementary vitamin C. In the latter trial, however, production of cold symptoms in subjects inoculated with common cold viruses had a success rate of only 38%. No information was provided about the sex, age, or vitamin C status of the treated or control volunteers. A consideration of the data indicated that the first two factors: affect ascorbic acid metabolism in different individuals, and that the third factor influences tissue integrity and normal function.11 Nothing can therefore be concluded about the relationship of ascorbic acid metabolism and the appearance of cold symptoms in the different experimental groups from the results of this trial. In the Sunday Times it was stated that this trial, carried out at the Common Cold Research Unit, was probably the best conducted so far. It may successfully have demonstrated the relationship between the common cold viruses and development of symptoms of the common cold, but by modern standards of clinical trial methodology it could not be classified as a well conducted clinical trial on the relationship between development of the clinical features of the common cold and the administration of supplementary vitamin C.

The second point which is apparent from all the clinical trials on vitamin C and the common cold is that no investigations, apart from those carried out in Dublin,11 have examined the vitamin C status of individuals who have been subjected to investigations of symptoms of the common cold dependent upon a particular virus-host relationship being attained. Dr. Tyrell has demonstrated that infection of a host with a susceptible virus must be achieved before a cold can develop.12 However, it is equally necessary for the host's tissues to be in a susceptible state for attack by the virus. As yet no evidence has been published which demonstrates whether this susceptible state is associated with an abnormality of vitamin C metabolism in the host at the time of attack by the virus. It has already been demonstrated that a significant elevation of tissue levels of vitamin C occurs in subjects susceptible to attack by common cold viruses before they are given supplementary vitamin C during the winter months,13,14 and that this supplementary ascorbic acid significantly reduces the duration, severity, and incidence of common cold symptoms in adolescent subjects.15 However the final proof of the efficacy of vitamin C in reducing the severity of common cold symptoms requires critical interpretation of the state of ascorbic acid metabolism in the infected subjects during their colds. Such interrelationship is dependent upon accurate knowledge of the relationship between their plasma and leucocyte ascorbic acid values, and the state of their ascorbic acid stores.12,15

Dr. Pauling did not provide this critical evidence necessary for support of his hypothesis about the relationship between the administration of supplementary vitamin C and reduction of the symptoms of the common cold.—I am, etc.,

CEDRIC W. M. WILSON

Department of Pharmacology, Trinity College, Dublin

4 Odumosu, A., and Wilson, C. W. M., British Journal of Nutrition, 1971, 27, 11P.

Histology of Burkitt's Lymphoma

Stir.—To those of us who have diagnosed dozens of Burkitt's lymphomata in a routine laboratory, the findings of Drs. A. Z. Bluntt- ing and A. C. Templeton (9 January, P. 89) are not unusual. In fact, when I see the occasional case that looks like the beautiful pictures in the W.H.O. monograph, I am surprised and delighted. All too many of our biopsies are squeezed and squashed, removed, squeezed into small bottles by attendants, travel for days in a dash of formalin, and arrive in the laboratory to be handled by partly trained staff. The result is a slide that the pathologist can barely recognize as a lymphoma, never mind a Burkitt's. Even in well processed tissues the characteristic picture of Burkitt's lymphoma may not be present in all parts of the tumour. Obviously, then, in a small biopsy, the diagnosis can be missed. When there is no clinical information with the specimen we try to follow up but often without result. So, many Burkitt's tumours go unreported as such.

The authors did not mention one interesting pitfall that may be found in patients surviving past the initial disease in Kenya, several years ago, I saw biopsies from two children with a diagnosis of recurrent Burkitt's lymphoma. They had been free of symptoms for some years apart from after cytotoxic drug treatment. The original biopsies were reviewed and the diagnosis confirmed by several experienced pathologists. The recurrences, which I was the first to see, and which I gave without data to my colleagues, were diagnosed as anaplastic nasopharyngeal carcinoma, which is relatively common in Kenya. Nobody suspected Burkitt's lymphoma. An alternative diagnosis was reticulum cell sarcoma. From chromosome studies it appeared that these cells of these tumours were polyploid, thus accounting for the bizarre appearances. Assuming that the tumours were true recurrences and not entirely new diseases (which would be a most extraordinary coincidence) this has led me to ponder if, in fact, the histological appearances we see are diagnostic for one special disease. When recurrent Burkitt's lymphoma looks like nasopharyngeal carcinoma why do we insist that these are two different diseases? Could they be manifestations of the same virus? After all the E.B. virus has been found in both.

At the risk of doing myself out of a job I sometimes wonder if all this separating off of various categories of tumours is valid. Perhaps, like doing a Rorschach test, we read into our slides much that is not there.—I am, etc.,

S. McCCLATCHIE

Central Pathological Laboratory, Blantyre, Malawi.

Jenunal pH and Folic Acid

Stir.—We read with interest the article of Dr. Ann Benn and others (16 January, p. 148). These workers attribute folate deficiency in epileptics taking phenytoin to...