Summary

Six cases are described in which symptoms of severe spinal and cerebral lesions occurred in association with pulmonary lesions presenting the radiological appearances of "atypical pneumonia." Recovery was rapid and complete. Although the clinical picture was variable it was in each case suggestive of a virus infection of the nervous system.

A review of the literature suggests that the nervous system is rarely involved in atypical pneumonia, but that when this does occur the tendency is towards complete recovery without sequelae.

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DEFICIENCY DISEASES IN REOCCUPIED HONG KONG

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In a paper entitled "Nutritional Diseases in Hong Kong before the Japanese Invasion" (Fehily, 1945) I described the widespread occurrence of B avitaminosis among the Chinese population in Hong Kong which was undoubtedly due to the high consumption of imported highly milled, and, latterly, long-stored rice. This vitamin B deficiency manifested itself mainly in beriberi, which was the second highest cause of death in Hong Kong in 1940; while maternal B avitaminosis (either latent or manifest) was the cause of infantile beriberi, a disease which often appeared in such an acute and lethal form that the term "human milk intoxication" was suggested for it. Practically no other deficiency diseases were observed before the occupation; isolated cases of vitamin A and C deficiencies, mainly secondary, were encountered in unwanted female infants who were fed only on rice paste.

Absence of Gross Deficiency Diseases

On the reoccupation of Hong Kong the medical officers of the British Military Administration were surprised at the absence of widespread beriberi and pellagra; owing to fishing restrictions gross vitamin A and protein deficiencies were also expected, but these did not materialize; neither was real starvation evident, although the population of Hong Kong was obviously in a state of subnutrition. However, on close inspection the signs of chronic and mild vitamin B deficiency, mainly that of aneurine and riboflavin, were detected.

It seems that during the Japanese occupation of Hong Kong rice was severely rationed, and as soon as old long-stored stocks had been exhausted relatively fresh rice was issued to the population. In addition people ate whatever was available, and centuries-old food fads and prejudices

were thrown overboard. Wherever possible, people grew their own vegetables and kept hens and rabbits, even in flats and cubicles. These practices undoubtedly saved the population of Hong Kong from severe deficiency diseases as well as from starvation.

Extensive Relief Work by the Military Administration

After the reoccupation of Hong Kong the Relief Section of the British Military Administration opened free-food kitchens and unstintingly supplied free rations to charitable institutions and to all under-privileged persons, while the British and Australian Red Cross Societies assisted by issuing Red Cross parcels not only to civilian internees and to prisoners of war and their dependants but also to the sick and needy and to orphans.

Unfortunately, since the liberation of the Colony virtually all the rice available has been highly milled, but it has been rationed and supplemented by fresh Australian wheat-flour, which, although highly milled, is richer in vitamin B than highly milled rice, and by blue peas, which are rich in vitamin B. In addition the Military Administration distributed vitamins on a large scale; indeed, the population of Hong Kong became vitamin-conscious for the first time in its history. The popularity of vitamins may be judged from the fact that on occasion only vitamins were pilfered when warehouses were broken into.

When I arrived in the Colony six months after the liberation undernourishment had almost disappeared and the population was apparently in good health. Admittedly B avitaminosis was still encountered, but with the return of prosperity some people were able to get expensive highly milled rice on the black market and thus defy the rationing system. In addition the return of Hong Kong residents and the large influx of immigrants (many of these returning residents as well as immigrants were already B avitaminotic) made control of nutrition more difficult. Indeed, during the first nine months of liberation the population of Hong Kong tripled and almost reached its pre-war level, so that eventually the issue of rations had to be restricted to returning residents, and immigrants had to patronize the black market, where they purchased highly milled rice as their staple food. In spite of this the incidence of B avitaminosis in Hong Kong was very low compared with that of the years 1938-41, and undoubtedly its complete eradication could be effected if lightly milled rice (or other high-extraction cereals) became the staple food of the population. It is gratifying to know that the Killearn Nutrition Conference in Singapore last year passed the following resolution; "There should be laws or regulations to prevent the high milling of cereals to a degree dangerous to the health of the public, because high milling not only removes valuable nutrients from the food but also reduces the quantity of food available for consumption." However, owing to present world conditions any rice available for importation into the Colony during the last year was only too welcome.

Vitamin B Deficiency in Infants

Special attention was paid to orphanages, infant welfare centres, and milk-distribution centres in order to detect any signs of deficiency diseases. In one foundling home with 75 orphans up to the age of 5 years I observed signs of vitamin B deficiency in 27 children. The ocular signs of ariboflavinosis were especially prevalent; 12 children had conjunctivitis of the type described as being common in Chinese in Shanghai (Hou, 1940, 1941), and 10 other children had photophobia alone. On entering the infants' ward one was surprised to see so many infants with their heads buried in their pillows, while others were doubled

up with their heads between their knees. These ocular symptoms were frequently accompanied by cheilosis, marginal stomatitis, and glossitis, and it is interesting to note that both photophobia and conjunctivitis regularly disappeared after a few days' administration of riboflavine and "marmite."

Undoubtedly all these infants were deficient also in other components of the vitamin B complex. Two of them (aged 2½ and 3 years) had beriberi of the adult dry type; one had classical acrodynia ("pink disease"); and one had a pellagroid condition of the skin. In smaller infants these multiple deficiencies manifested themselves in wasting, pallor, rigidity of the limbs and body, gastro-intestinal disturbances (mainly due to decreased tolerance of fat and protein), stomatitis, and glossitis: it seemed incongruous to see pale pinched infantile faces with blood-red lips and tongue. However, the condition of these infants did not represent the true nutritional state of infants in general; almost all the inmates of such foundling homes are unwanted female babies whose mothers were unable or unwilling to nurse them owing to the nature of their work or the partial or complete absence of lactation. Most of these babies, many of whom were found abandoned on the steps, had been fed mainly on rice paste, and showed signs of severe malnutrition on admission; their treatment was extremely difficult because of multiple vitamin deficiencies and gastro-intestinal disturbances.

In one infant welfare centre 190 out of 1,215 cases (15.6%) showed signs of vitamin B deficiency— B_1 deficiency in 77 cases, B_1 and B_2 (riboflavine) deficiency combined in 110 cases, and manifest signs of ariboflavinosis alone in three cases. Only two infants, both entirely breast-fed, out of 1,215 of the new cases were found to be suffering from acute infantile beriberi (human milk intoxication). The nutritional state of infants in Hong Kong cannot be judged by the condition of infants brought to infant welfare centres either, as up to 90% of them require medical treatment, there being no children's hospital or special children's clinics.

Subsequently I examined the children at milk-distribution centres. During the Military Administration these centres were established in hospitals, convents, orphanages, and infant welfare centres for the purpose of overcoming the black market in preserved milk, and children of the district up to 2 years of age were registered and supplied with milk at the controlled price. As they had to be brought to the centres, it was possible to observe the nutritional state of infants of most classes in the community. Out of 2,000 babies examined in one centre, 82 (4%) showed signs of vitamin B deficiency, ariboflavinosis being most evident.

Practically no other deficiency diseases were observed, although the hair growth of some babies about the age of 1 year was noticeably poor, probably as a result of deficiency of first-class protein during the Japanese occupation. One 4-year-old child was brought to the centre on its mother's back, and he was suffering from an acute form of rickets and was unable to walk. However, as none of the other children in this family showed signs of vitamin D deficiency this single case of rickets was probably due to some derangement of the endocrine system.

Outbreak of Scurvy

Quite suddenly in April, 1946, scurvy broke out in the foundling home previously mentioned, 12 of the orphans being affected. This outbreak was unexpected, as the infants were supposed to be given ascorbic acid tablets and the other children tinned tomato juice as prophylactic, in addition to a regular supply of fresh vegetables. On investigation, however, it was found that the children's

diet consisted mainly of cereals supplied by the relief section and tinned foodstuffs provided by the British Red Cross Society. Fresh fruit was not available, while the amount of fresh vegetables (owing to the high cost) was quite inadequate. Consequently another orphanage, which I had not previously visited, was inspected, and it was found that of 188 children between the ages of 5 and 17 years 72 (38%) showed signs of frank scurvy. Here the scurvy must have been of considerable duration judging by a most irregular eruption of teeth (unusual among Chinese in Hong Kong), accompanied by enamel hypoplasia and subsequent caries. Close investigation revealed that the children had subsisted for months on a scorbutic diet consisting mainly of cereals and tinned meat and fish supplied by the British Red Cross. Fresh vegetables were supposed to be provided by the Committee (the orphanage being a Chinese charitable institution), but the amount of money allotted for this purpose was on the pre-war scale. To make matters worse, dried vegetables, being cheaper, were frequently supplied instead of the fresh variety. Thereafter fresh vegetables, ascorbic acid tablets, and occasionally oranges were added to the children's diet, with the result that gingival haemorrhages ceased after two weeks, and five of the children with frank scurvy could be regarded as cured after eight weeks. Unfortunately, owing to the ending of my tenure of office, I was unable to observe the further progress of treatment.

A high incidence of conjunctivitis was also present among these children; all but one child showing signs of vitamin C deficiency had conjunctivitis, while only two children with conjunctivitis were free of any other signs or of C avitaminosis. In contrast to the conjunctivitis due to riboflavine deficiency there was no lacrimation or photophobia—indeed, no subjective symptoms whatever—while the only part of the conjunctivae affected was the palpebral. The symptoms consisted mainly of hyperaemia, thickening, and, in one case only, haemorrhage. The alterations in the palpebral conjunctivae seemed to correspond with those of the discoloured and swollen gums in the condition termed "gingivitis scorbutica"; "conjunctivitis scorbutica" would seem to be a suitable term for this manifestation in the conjunctivae.

Sporadic cases of scurvy among Chinese nurses also came under my observation. In all these cases the history was similar; the diet consisted mainly of cereals and tinned foodstuffs. As a result of the increased cost of labour, profiteering, and the devaluation of Hong Kong currency by the Japanese the prices demanded by merchants for all local produce were exorbitant; at one time 1 lb (454 g.) of local potatoes cost as much as a 14-oz. (388-g.) tin of imported corned beef. Foreign exchange for the importation of Californian oranges was obtained by some merchants, but the oranges were cornered by unscrupulous profiteers, who either exported them into China or demanded such exorbitant prices that only the very rich could afford to buy them. Consequently the exportation of oranges was prohibited and prices were controlled, with the result that they could be bought at a reasonable price. In addition the Administration endeavoured to cut out the middlemen's profits, so far as the sale of vegetables was concerned, by taking over their activities, and in order to cut down the prices of fruit and vegetables it imported large quantities from the U.S.A. and Australia.

Great Reduction in Mortality Figures

After one year of British reoccupation the health of the population in general has greatly improved and the mortality figures have been considerably reduced. This is a result of the rationing of cereals, the price control of essential foodstuffs, and, to a smaller extent, the widespread

distribution of vitamins. The number of deaths that occur daily now averages less than 45, in comparison with a daily average of 175 in 1941. As regards infant mortality, it is estimated that for the year 1946 the death rate will be approximately 100, as compared with 327 in 1940 (Annual Report of Director of Medical Services, 1940). The mortality rates for 1941 are not available; nor are the rates for the years of enemy occupation (1942-5). However, the infantile death rate during the occupation must have been very high, owing to the absence of any substitute for human milk and the decreased lactation of mothers suffering from undernourishment. In one foundlings' home the mortality rate of babies under 3 months of age was 100%.

Summary

Before the war in the Pacific severe B avitaminosis was widespread in Hong Kong and manifested itself mainly in beriberi. At that time the exceedingly high infantile mortality was chiefly due to a disease termed infantile beriberi or "human milk intoxication."

After the liberation of the Colony the absence of gross deficiency diseases was observed, although the population was in an evident state of subnutrition.

Extensive relief measures undertaken by the Military Administration are cited.

After six months of reoccupation a nutritional survey of infants was made, and it was found that mild and chronic vitamin B deficiency still existed in the Colony to the extent of 36% in a foundling home, 15.6% in an infant welfare centre, and 4% among the children in the milk-distribution centres. Ariboflavinosis was relatively more evident than before the outbreak of the war in the Pacific. Acute infantile beriberi, or "human milk intoxication," had virtually disappeared.

Practically no other deficiency diseases were observed, although, owing to the exorbitant prices of vegetables and fruit and their consequent substitution by cereals and tinned foodstuffs, there were outbreaks of scurvy in two orphanages as well as some isolated cases among the adult population.

After one year of reoccupation the health of the population has greatly improved, and the mortality rates are reduced to less than one-third of those for the years immediately preceding the war.

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Medical Memoranda

Fatal Tracheitis after Endotracheal Anaesthetic

It has wisely been urged that anaesthetic disasters should be reported.

In common with many other anaesthetists I have for years kept endotracheal tubes in biniodide of mercury (1 in 1,000 solution); that is, until December, 1944, when I had a fatal case of tracheitis.

CASE HISTORY

A woman of 37 was anaesthetized for myomectomy. She had a history of recurrent aphonia which the E.N.T. surgeons had diagnosed as hysterical, though there was said to be "some thickening of the cords." She was induced with "pentothal," cyclopropane, and a little ether, and intubated under direct vision. A size 7 Magill tube was used, which was a moderately tight fit. This had been soaked in biniodide and washed. Anaesthesia was maintained with cyclopropane. In the evening of the following day her breathing became difficult; there was also collapse of the right base. Her temperature was 101° F. (38.3° C.). Adrenaline was advised, and 5m (0.3 ml.) gave considerable relief. The day after there was again an attack of stridor and dyspnoea with the production of greenish sputum. On the third day after operation the dyspnoea became much worse, though the temperature remained at about 101° F. (38.3° C.). Tracheotomy was performed with great difficulty, but the patient

succumbed on the table. Thick membranous material had been removed during this operation.

At necropsy the larynx and trachea were found to be considerably smaller than usual. There was subchronic inflammation in trachea and bronchi, with superimposed acute changes in trachea, bronchi, and lungs.

COMMENTARY

The exact cause of death remains uncertain. At that time, however, a number of patients were getting sore throats after intubation—a fact elicited without any more than the customary amount of post-anaesthetic interrogation. Also, at that time face masks were being cleaned with biniodide after use, and a number of patients had a post-operative rash on the face. This was a painless non-irritating erythema. On its first appearance it was as though the shape of the cushion of the mask had been stamped on the face. This mark spread inwards and outwards until in a few days the whole face was red. It ended, a few days later, in a fine, faintly fawn-coloured desquamation. The dispensary reported that the biniodide tablets were the same as usual, and the theatre sister that the solution being made was of the usual 1 in 1,000 strength. The rinsing of the masks and the endotracheal tubes was checked. As there was no new factor in the biniodide, was there some difference in the wartime rubber? Was it having some action with, or absorbing, the biniodide? With a view to finding an answer to these questions the following test was carried out.

On the forearms of 30 volunteer patients or colleagues three little patches were fixed: (a) a piece of plain endotracheal tube of wartime rubber; (b) a piece of a similar tube that had been soaked in biniodide and well washed; and (c) a small pellet of cotton-wool dipped in biniodide and squeezed dry. These were inspected at two-hourly intervals for 12 hours. There was one doubtful reaction to the plain rubber, nine to the biniodide rubber, and eleven to the biniodide. The amount of solution left in the wool may have been variable. The reaction consisted of a pinkening, in several well-marked places, followed in a day or two by fine desquamation.

Although this series is small, it does at least show that there is some change in the rubber after it has been soaked in the solution. Since ceasing to use biniodide—and this is now twenty months—we have had no face reactions at all and not more than the occasional sore throat—certainly no such reaction as in the above case.

I should be interested to know whether other people have had similar experiences, or can cast any light on this one.

I thank Miss M. A. M. Bigby, M.D., M.R.C.O.G. (surgeon in charge), for allowing me to publish this case; and Dr. W. Pagel, hospital pathologist, for his help and interest.

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Shell Fragment Migrating from Kidney and Passed per Urethram after 23 Years

The following case report seems interesting enough to merit publication.

A municipal official aged 61 came into my consulting-room on May 28, 1942, and produced for inspection a miscellaneous collection of coins and high-explosive shell fragments removed from his body at various times. Among these was a fragment measuring 1 cm. by 0.5 cm. by 0.2 cm., which he had passed per urethram in 1938. His history was confirmed by reports and radiographs which he brought with him, and was as follows. While serving as a gunner during the second battle of Ypres in 1915 a "whizz-bang" shell exploded close to him and inflicted severe wounds in the left leg and lower chest. He had numerous operations and recovered. Eleven years later, in 1926, he was in London and was examined by Col. (now Major-Gen.) West. There was an open sinus passing between the eleventh and twelfth ribs to the left kidney, and a radiograph showed three pieces of shell casing in the neighbourhood of the kidney but none lower down. An operation was performed and one fragment removed. In 1928 the remains of the kidney were removed and another fragment was recovered. In 1938, ten years later, he passed the third fragment per urethram. A radiograph showed that no fragments remained. As no renal colic preceded the event it is improbable that the ureter was the path of transit. The fragment had apparently travelled down and ulcerated into the bladder.

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