BOOK REVIEWS

CHEMOTHERAPY OF LEPROSY FOR CONTROL PROGRAMMES

Report of a WHO Study Group. World Health Organization Technical Report Series, No. 675, 1982; 33 pages.

While progress has been made in expanding leprosy control programmes, the twin problems of dapsone resistance and bacterial persistence have been causing serious operational problems and some uncertainty regarding the future of leprosy control programmes. The Study Group convened by WHO reviewed these problems and recommended that the only way to prevent the spread of dapsone-resistant leprosy is to use multiple drug therapy. It also noted that only four drugs can be recommended for combined therapy namely, rifampicin, dapsone, clofazimine and ethionamide/protionamide, and that at least two additional drugs should be combined with dapsone, one of which should always be rifampicin because of its great potency. The recommended standard regimen for multibacillary leprosy is:

Rifampicin	600 mg once-monthly, supervised
Dapsone	100 mg daily, self-administered
Clofazimine	300 mg once-monthly, supervised, and 50 mg daily, self-administered

Further delays in implementing well-planned and well-executed programmes of combined chemotherapy can well result in the catastrophic state of multidrug resistance in leprosy and the total failure of control programmes.

P. C. Y. CHEN

A RATIONAL APPROACH TO RADIODIAGNOSTIC INVESTIGATIONS

Report of a WHO Scientific Group (Geneva, 1982).Technical Report Series, No. 689, 1983; 49 pages.

The WHO has produced a report which contains the collective views of an international group of experts regarding the use of x-ray radiation for diagnostic investigations. They have compiled these views and have put them in a book form entitled *A Rational Approach to Radiodiagnostic Investigations*. I read this book with interest and compared our techniques with what has been expressed in this report. It is interesting to note that as far as the qualified radiologists are concerned in this country, we are of the same opinion regarding the approach for diagnostic investigations as outlined by the WHO scientific group. The indications and limitations of these diagnostic investigations have been quite clearly stated in this booklet and it is recommended that all those who are involved with the use of x-ray radiation and also referring physicians should have a quick glance at this very readable book, which should not take more than one hour.

Some of the views that have been put forward regarding investigations may not be applicable to this part of the world but suffice to say that references have been provided to debate this point of opinion. It is a simple, little book where considerable thought and work has been put in and should be treated as an informative book for today in an approach to radiodiagnostic investigations. The cost is only about M$6.00 and hence it is a handy book for all those who wish to know about radiological investigations.

J. SINGH

PRIMARY PREVENTION OF ESSENTIAL HYPERTENSION

Report of a WHO Scientific Group. World Health Organization Technical Report Series, No. 686, 1983; 40 pages.

Arterial hypertension is today recognized as an almost ubiquitous health disorder, with a prevalence in most developing countries similar to that in technically developed societies. In general, it affects between 10-20% of the population and, since it carries a serious risk of cerebrovascular, cardiac and renal complications, it is clearly a major public health problem.

During the past few decades considerable progress has been made in the treatment of essential hypertension but relatively little attention has been paid to the possibilities of primary prevention.

The evidence suggests that blood pressure is multifactorially determined, but, despite extensive studies and theoretical discussion, the exact mode of inheritance and the number of major genes involved in human hypertension have not yet been settled. Many possible environmental influences have

also been investigated, including body weight, salt and other dietary factors, alcohol, physical activity, and psychological and social influences. Excessive alcohol consumption, and sodium and potassium intake appear to play an important role, but the precise mechanisms have yet to be elucidated. The report concludes that much too little is known about the influence on blood pressure of environmental factors and makes several recommendations for further research.

The early identification of hypertension-prone individuals is an important aspect of primary prevention programmes and the development of genetic markers of hypertension is urgently needed. Among other recommendations for research, the report draws attention to the need to investigate the reasons for the observed higher levels of blood pressure in the lower socioeconomic groups in industrialized societies as well as to the importance of monitoring changes in blood pressure accompanying large, rapid changes in lifestyle, type of employment, relative affluence, nutrition and education. In populations with a high salt intake, educational measures should be undertaken to explain the potential importance of reducing excessive salt intake and in populations in which overweight is prevalent, the public should be informed about the links between being overweight and high blood pressure. It is also recommended that industrially processed foods should be labelled to show their content of sodium.

APARTHEID AND HEALTH

Geneva World Health Organization, 1983; 258 pages.

For many years the system of apartheid has been a major cause of concern to the international community. Its effects on health in South Africa have long perturbed the member states of the World Health Organization, which has been conducting an ongoing study on the health and psychosocial implications of apartheid. This study has led over the years to a number of reports and documents analysing the destructive effects of apartheid on the health conditions in South Africa.

This latest publication of WHO is made up of two parts. Part I contains the report of an *International Conference on Apartheid and Health* convened by WHO in Brazzaville in 1981 at the request of the governments of a number of countries in the African region. It contains the major addresses to the conference; an overview of the main themes discussed; the conference's recommendations; the strategy for health for all and the associated plan of action adopted by the conference; and the text of the *Brazzaville Declaration on Apartheid and Health.*

Part II is a report to the conference prepared by WHO experts on the effects of apartheid in the fields of health and health care. This presents a detailed picture of the dismal health conditions prevailing under the apartheid system, based on an analysis of statistics, various reports, official documents and scientific publications emanating from South Africa itself. The report does not claim that all ill-health in South Africa is the direct result of discriminating policies; the study does show clearly, however, that the differential incidence of disease and mortality in South Africa, as well as the grossly unequal access to health care, are socially structured and that it is, above all, the policies of apartheid that determine this.

PREVENTION OF LIVER CANCER

Report of a WHO Meeting. World Health Organization Technical Report Series, No. 691, 1983; 30 pages.

Liver cancer is one of the ten most prevalent cancers in the world and one of the most frequent cancers in developing countries. Hepatocellular carcinoma is by far the most common primary liver cancer, and up to 80% of these cancers are attributable to infection with hepatitis B virus. Consequently, immunization of populations at risk against hepatitis B infection could have a considerable impact on health by preventing the chronic carrier state of hepatitis B infection and hence reducing the incidence of liver cancer.

This report of a meeting convened by the World Health Organization discusses the worldwide distribution and etiology of hepatocellular carcinoma and considers the possibilities of preventing the chronic hepatitis B carrier state. The possibility of widespread screening for the early detection of the carcinoma in asymptomatic cases is also discussed.

Recent advances in the study of the molecular biology of hepatitis B virus include the discovery of integrated viral DNA in the hepatocyte genome of patients with chronic hepatitis and hepatocellular carcinoma. This integration makes the elimination of hepatitis B DNA impossible in chronic carriers but prevention may be achieved by protection

against primary infection. Effective vaccines against hepatitis B are available; their use in field trials to test their effectiveness against the long-term risk of contracting hepatocellular carcinoma is now possible. The vaccines currently available are derived from human plasma obtained from carriers of hepatitis B surface marker. The report emphasizes the need for safety standards for these vaccines, particularly since other infectious agents may be present in human blood. International reference preparations of the vaccine must be established to control vaccine potency.

Only limited quantities of the human plasma-derived vaccines are at present available, and the development of other types of vaccines was discussed. It is hoped that in future, vaccines prepared from alternative sources will be safer and cheaper.

Possible global strategies for the prevention of hepatitis B infection and perhaps, as a consequence, hepatocellular carcinoma are described and the short and medium-term objectives to be pursued in field studies are considered. The design of such trials is discussed.

CONTROL OF VITAMIN A DEFICIENCY AND XEROPHTHALMIA

Report of a Joint WHO/UNICEF/USAID/Helen Keller International/IVACG Meeting. World Health Organization Technical Report Series, No. 672, 1982; 74 pages.

Vitamin A deficiency and xerophthalmia are among the most widespread and serious nutritional diseases that affect mankind. At a meeting in Jakarta in October 1980, convened jointly by WHO and four other bodies, a review was undertaken of the progress that has been made in the institution measures to control these conditions since 1974, when a joint WHO/USAID meeting had summarized all available information on the subject.

While the use of locally available foods to ensure a population's adequate intake of vitamin A is the ideal control method, interventions by periodic dosing or by fortification of certain foodstuffs (e.g., dairy products and sugar) with vitamin A are often necessary. A multistrategy approach, combining both short and long-term programmes, gives the most effective results. The report describes current control programmes in a number of countries and gives examples of effectiveness and costs. The roles of educational programmes, primary health care, nutritional rehabilitation programmes, and horticulture and related activities are also described. The importance of adequate vitamin A in food relief for the victims of disasters is highlighted, considering that there are probably more than 12 million refugees in danger of starvation and disease, of whom half are children under the age of 15 years.

Among the important recommendations of the meeting, which should help to simplify epidemiological investigations and to rationalize and improve control measures, are: a revised classification of xerophthalmia by ocular signs, in which the previous division into primary and secondary signs has been abandoned; modified criteria indicative of a significant public health problem in the community, as shown by the prevalence of xerophthalmia among the under-fives; and revised treatment and prophylaxis schedules in which more emphasis is put on oral administration of vitamin A and rather less on the use of intramuscular water-miscible preparations.

This report also describes recent advances in the biochemistry of vitamin A and the carotenoids, the interrelationships of vitamin A deficiency with protein-energy malnutrition and infections, the assessment of vitamin A status, the global occurrence of vitamin A deficiency and xerophthalmia (in countries in Asia, the Middle East, Africa, and Latin America and the Caribbean), and priorities for future research. It includes colour illustrations showing the conjunctival and corneal lesions in xerophthalmia.

In view of the measures that are already available for overcoming the important problem of vitamin A deficiency and xerophthalmia, this publication should be read by public health workers, clinicians and nutritionists, as well as research workers in this field.

VACCINATION CERTIFICATE REQUIREMENTS

Vaccination certificate requirements for international travel and health advice to travellers. Geneva, World Health Organization, 1983; 70 pages.

In 1981 for the first time, the familiar booklet in which the World Health Organization tabulates all the different vaccination certificate requirements for international travellers that are prescribed by

national authorities was enlarged to include information on the risk of acquiring malaria in countries where it occurs and to show drugs and dosages for malaria prophylaxis. New sections were also added outlining some of the main health hazards for travellers, giving a broad indication of the particular health risks in different parts of the world, and outlining the principal precautionary measures. Important food-borne and water-borne infections were tabulated. These improvements are maintained in the 1983 edition, which includes all the information available up to December 1982.

Although primarily addressed to national health administrations, this book is also extremely valuable to the medical profession, tourist agencies, transport companies, and individual travellers.

Separate editions in English and French are available and Arabic, German, and Spanish translations are now in preparation.

TUBERCULOSIS CONTROL

Report of a joint IUAT/WHO Study Group. World Health Organization Technical Report Series, No. 671, 1982; 26 pages.

In the hundredth year since Koch's discovery of the tubercle bacillus, tuberculosis is still a major health problem throughout the world, even though it is a disease that can be controlled and eventually eradicated. While the technically advanced countries have achieved spectacular results in tuberculosis control over the last three decades, they have by no means eliminated the problem. In the developing countries, the epidemiological situation has improved little, if at all, during the same period, and the absolute number of cases of the disease in those countries has doubled.

A Study Group on Tuberculosis Control, which met in Geneva from 14 to 18 September 1981 under the joint sponsorship of the International Union against Tuberculosis and World Health Organization, concluded that the tuberculosis control strategy, based on a combination of case-finding and chemotherapy, which was outlined in the ninth report of the WHO Expert Committee on Tuberculosis in 1974, [1] is still a sound and valid one, and the Group's own report is intended to supplement that of the Expert Committee rather than replace it.

After reviewing the epidemiological situation in developing countries (where the risk of tuberculous infection is between 25 and 50 times as high as it is in technically advanced countries), the Group considers reasons for the failure of the national control programmes to reduce the incidence of infection. It emphasizes the lack of sufficiently strong technical support and supervision; the need for concerted action by all groups concerned; shortcomings in financing, drug supply, and staff training; and, above all, deficiencies in evaluation, which should be a continuous process.

The Group's report reaffirms the conclusions of a recent WHO Study Group on BCG Vaccination Policies, [2] notably that the use of BCG as an antituberculosis measure should be continued, since, given early in life, it can play a major role in developing countries, where the risk of infection is high, in preventing morbidity and mortality from tuberculosis in children. Research on BCG is of primary importance, and WHO is giving priority in its research programme to studies on the problems raised by the failure of the BCG trial in southern India.

The Study Group emphasizes the opportunities that the new strategy of primary health care offers for attaining integrated tuberculosis control. It points out also that bacteriological techniques need to be improved and case-finding and treatment methods rendered more effective, the latter notably by introducing the highly effective short-course chemotherapy regimens that are now available. Surveillance should be strengthened. Sociological studies are recommended to overcome various obstacles to the implementation of control programmes. Other recommendations concern health education through mass media, and research into the economics of tuberculosis control.

REFERENCES

[1] WHO Technical Report Series, No. 552, 1974.

[2] WHO Technical Report Series, No. 652, 1980.

EVALUATION OF CERTAIN FOOD ADDITIVES AND CONTAMINANTS

Twenty-sixth Report of the Joint FAO/WHO Expert Committee on Food Additives. World Health Organisation Technical Report Series, No. 683, 1982; 51 pages.

At its twenty-sixth meeting, the Joint FAO/WHO

Expert Committee on Food Additives revised the specifications for a large number of substances, including inorganic salts, buffering agents, salts, emulsifying agents, and miscellaneous agents. New specifications were developed for several additional substances-buffering agents, an antioxidant, a food colour, an enzyme preparation, and several phosphate salts.

Among these substances are some which are essential nutrients and unavoidable constituents of food but which may also be present in food as contaminants and may be toxic at a certain level of intake. For these it is inappropriate to set the usual ADI figure (acceptable daily intake), and the Committee accordingly established provisional maximum tolerable daily intakes for copper, tin, zinc, and phosphates and polyphates. For copper and zinc, these intakes are expressed as two figures, of which the lower represents the essential requirement and the higher the danger threshold; for tin, only an upper figure was considered necessary. A maximum tolerable daily intake figure was set by the Committee for the sum of the phosphates and polyphosphates naturally present in food and certain additives, not for individual phosphates.

Some concern has been expressed recently about the possibility that the increasing use of phosphates and polyphosphates as food additives might perturb calcium/phosphorus ratios in the diet. After examining the evidence, the Committee decided that the question of the optimum ratio was still unresolved and recommended further studies on the consequences of high dietary intakes of phosphate.

The report examines the significance of kidney lesions in rats fed with diets containing chemically modified starches and draws attention to the need for further studies to elucidate the pathogenesis of the pelvic and corticomedullary forms of nephrocalcinosis in the rat.

Another recent cause for concern has been the use of xenobiotic anabolic agents in animal food production. The report stresses the need for toxicological data relevant to the problems of the potential tumorigenic activity of these compounds and the presence in animal products of residues or metabolites that might have endocrinological or toxicological consequences for the consumer when the substances are used according to good animal husbandry practice.

After commenting on the toxicological data available to the Committee on specific food additives and contaminants, the report briefly summarizes future work considered necessary. It concludes with a number of recommendations to FAO and WHO for the continuation of their work to evaluate the health risks of food additive use and the presence of contaminants in food.

The usual tabulations of acceptable daily intakes, information on specifications, and further toxicological information required are given in annexes to the report. The last annex presents in consolidated form the guidelines and general principles for the evaluation of various groups of food additives that have appeared in previous reports of the Committee.

INTERFERON THERAPY

Report of a WHO Scientific Group. World Health Organisation Technical Report Series No. 676, 1982; 28 pages.

Since the discovery of interferons some 25 years ago, their potential medical uses — in particular, for the treatment of virus diseases and cancer — have been the subject of much speculation and study. Recent technological developments have made it possible to produce interferons in greater quantities than before and thus to test them on a wider scale. Knowledge of their action in the human body and of their therapeutic effectiveness is, however, still far from complete.

This report of a WHO Scientific Group is intended to inform national health authorities of recent advances in the production of human interferons and the assessment of the clinical effects of interferon in man. It is hoped that the information it contains will help them to judge the desirability of acquiring interferon for clinical studies in their own countries and to establish the conditions under which its use in humans can be authorized.

Interferons were introduced into clinical trials over a decade ago, when studies of their action against virus diseases were started. These studies were subsequently extended to take in the treatment of malignant diseases as well. So far as the virus diseases are concerned, more or less favourable results have been achieved in trials of the effectiveness of interferon against herpetic keratitis, herpes zoster, and laryngeal papilloma.

Its use in combination with antiviral drugs such as ara-AMP has given promising preliminary results in selected patients with chronic hepatitis B infections. However, many of the studies have not been properly controlled, and in most instances optimum doses and treatment schedules have not been established. It is clear that much more research will be needed before interferon can be recommended as an antiviral drug.

Similarly, the clinical benefit of interferon in the treatment of malignant disease is as yet unproven, despite reports of improvements following its use in patients with multiple myeloma, disseminated follicular lymphoma, and recurrent breast cancer. Here again, doses and treatment schedules need to be established, and many further trials are needed to confirm or refute the value of interferons as antitumour agents.

During clinical trials, a number of side-effects have been observed and it has become apparent that many of them are caused not so much by the impurities in the interferon preparations used, as by the interferon itself. The possible long-term consequences of the administration of interferon preparations have yet to be satisfactorily elucidated, since the chronic toxicity studies that have been carried out in animals are of questionable significance for humans.

Having reviewed the evidence, the Scientific Group concludes that: "Interferons are not a panacea for the cure of human virus infections or cancer, and there is no case for their use at present except in properly controlled clinical trials".