

of professional representation on area health authorities and the ambiguous relationship between the authorities and the central machinery. There will be no regional tier between the 10-15 areas proposed and the S.H.H.D. The medical profession in Scotland has held special meetings during the past two years to discuss reforms, and recently major standing committees⁷ have been studying a discussion paper from the S.H.H.D. giving more details about the controversial central structure for the N.H.S. there. This envisages a triad of a central planning council, a common services agency, and the S.H.H.D. While the Department has given assurances that area boards would be responsible to itself, some aspects of Health Service planning would be a function of the council (a consultative body). The agency, which would have close ties with the council, would provide a wide range of services for the area authorities, such as contracting for major supplies and the pricing of prescriptions. It would also take over work now done by such bodies as the Dental Estimates Board, and arrange for the selection and training of non-professional N.H.S. staff. Though neither the council nor the agency would have any administrative control over the area boards, nevertheless the doctors are concerned about the proposals because of the dangers of confusion about responsibility and negotiating procedures. The starting date for the Scottish reorganization will be early 1974, in line with launching of the English, Welsh, and Scottish local government reform.

The declared aim of the N.H.S. reorganization throughout the United Kingdom has been the integration of the different sections of the health services. Of the four countries Northern Ireland should come closest to achieving this, for only there will the personal social services and the personal health services be administered by a common area authority. There has been no Seebom type legislation there to pre-empt this rational integration. The school health service will also be integrated into the N.H.S. To fit in with the timetable of local government reform, an urgent objective of the Northern Ireland Government, the N.H.S. reorganization will begin in April 1973. A welcome aspect of the latest consultative document from Northern Ireland (the first green paper was issued in July 1969⁸) is that compared with the English one it is a positive mine of information. This has given the B.M.A. working party specially set up to send comments on the reform to the Government an easier task than faces the profession in England and Wales.⁹ The profession's main criticism has been of the plan to set up four area boards, its preference being for one board to cover the whole country. Like Wales, Northern Ireland is to have a staff commission and its functions in helping staff through the transitional period are spelled out. Unlike England, Wales, and Scotland the health professions will have broadly 30% representation on each of the four area health boards proposed—and district councils will also have 30%, the remainder being taken up by other interests such as universities. The community's participation in the future N.H.S. is clearly defined, in welcome contrast to the English proposals.

Some of the differences between the plans for England and for the rest of the United Kingdom reflect the size of the Health Services in the four countries. The broad objectives of integration are similar, despite the varying routes proposed to achieve it. Paradoxically, while representatives of the profession in Northern Ireland and Scotland will take part in the profession's debate on the future of the N.H.S. in England and Wales the reverse is not so. Nevertheless, the experience of these representatives

and the knowledge acquired in discussions with their two Governments should help the Representative Body when it debates the subject at Leicester.

¹ Department of Health and Social Security, *National Health Service Reorganization: Consultative Document*. 1971.

² *Administrative organization of the Scottish Health Services*. London, H.M.S.O., 1968.

³ Ministry of Health and Social Services *Consultative Document on the Restructuring of the Personal Health and Personal Social Services in Northern Ireland*, March, 1971.

⁴ Welsh Office. *National Health Service Reorganization in Wales: Consultative Document*. June, 1971.

⁵ *The organization of the Health Service in Wales*. H.M.S.O. London, 1970.

⁶ *British Medical Journal*, 1969, 2, 330.

⁷ *British Medical Journal Supplement*, 1971, 2, 131.

⁸ *The Administrative Structure of the Health and Personal Social Services in Northern Ireland*. Belfast, H.M.S.O., 1969.

⁹ *British Medical Journal*, 1971, 3, 3.

Cancer Research

The Cancer Research Campaign's 48th Annual Report, covering the year 1970, has a completely different format from that of its predecessors. Most of its 145 pages are taken up by indices of research centres and of projects supported, lists of the Campaign's officers and of papers published by Campaign-supported research workers, and a financial statement. The income of the Campaign was more than 10% higher in 1970 than in 1968 or 1969, but the cost of research is increasing at a rate of about 10% per annum.

The scientific content of the report is restricted to three short general review articles which bear little special relationship to the work or achievements of grantees. The first of these, by Professor J. F. Fowler, of Mount Vernon Hospital, is concerned with progress in radiobiological research applicable to radiotherapy. He refers in particular to the search for new ways of reoxygenating and destroying hypoxically-protected tumour cells and of reducing injury to normal tissues during radiotherapy, and points out that between 1940 and 1970 the 5-year survival rate for patients with Hodgkin's disease rose from 6 to 73%. This change he attributes partly to improvements in radiotherapy apparatus and techniques, partly to the development of combined therapy with x-rays and drugs, and "greatly to systemic studies of the patterns of spread of the disease in the body so that treatment can be given precisely where and when it will have the best effect."

The need for an intensive programme of research to evaluate the effectiveness and safety of immunotherapeutic procedures in animal systems is stressed by Dr. R. W. Baldwin, director of the Campaign's laboratories in Nottingham. He also suggests that human tumours should be classified according to the degree with which they are associated with the patient's immune responses. A careful study of types of cancer which are associated with immune responses may provide useful information on aetiology and may lead to the development of new methods of both diagnosis and treatment.

Perhaps the most interesting review is that by Professor William Jarrett and Dr. Oswald Jarrett, who work in the Veterinary Hospital and the Department of Virology in the University of Glasgow on "oncorna" viruses and leukaemia in chickens, mice, rats, guinea-pigs, cats, and cows.

They suggest that techniques are now available to test the theory that viruses of the same group have a role in the development of human leukaemia. They go on to give reasons for being hopeful that new methods for preventing or treating human leukaemia might be evolved in the light of studies now rendered feasible or already in progress.

The Campaign no doubt did well to discontinue the publication of preliminary and inconclusive data that tended to swell previous reports. Nevertheless, something of value has disappeared, and it is to be hoped that future reports will give more information than the present one on the scientific work actually supported by the Campaign.

¹ Cancer Research Campaign, 48th Annual Report, 1970. London, 1971.

Hypogammaglobulinaemia

All known circulating antibodies are contained in five classes of immunoglobulins—IgG, IgA, IgM, IgD, and IgE. On serum electrophoresis they migrate mostly as gammaglobulins. The term agammaglobulinaemia was applied to diseases caused by defects of antibody production, but, since immunoglobulins are never completely absent, hypogammaglobulinaemia is a more correct term. It is now clear that cellular immunity has an even more fundamental role than antibodies in protecting the individual from infections. Furthermore, two central portions of the immunological apparatus are closely connected in setting up the response to infection. They are the thymus-dependent T lymphocytes and the "bursa-equivalent" or B lymphocytes,¹ which turn into plasma cells and make antibodies. Defects in these two central systems can occur at the level of the primitive precursors in the bone marrow, when both T lymphocytes and antibodies will be absent. The result is a "combined immune deficiency syndrome." Or else cellular immunity and antibody synthesis can be affected separately. In all these circumstances the individual is prone to frequent and severe infections by various organisms, and it has been found that, when immunoglobulins are low, regular gammaglobulin injections can prevent these infections and resulting sequelae such as bronchiectasis. In view of this the Medical Research Council set up a working party in 1955 to co-ordinate the supply of gammaglobulin and to study the incidence and natural history of hypogammaglobulinaemia in the U.K. An interesting report has now appeared² summarizing the experience collected on some 200 patients seen in the first ten years of this trial.

Hypogammaglobulinaemia is present in about 15 per million males and 4 per million females. About half the patients diagnosed in the first six months of life suffer from combined immune deficiency syndrome, and this is invariably fatal within the first year. Some of them came to light after developing generalized vaccinia when inoculated soon after birth, and it is now essential to wait until it is possible to estimate the immunoglobulins at about three months before embarking on immunization programmes. The only hope in future for patients with this disease is transplantation of tissue-matched bone marrow.³ The cases of B cell deficiency may be familial or sporadic; some are sex-linked while others are seen in both sexes. Some families are characterized by early death of the

affected babies, and in these gammaglobulin replacement has not been successful in the present trial. Unknown defects probably complicate the picture in these instances, and further studies of cellular immunity might disclose partial insufficiency of the T lymphocytes also.

In hypogammaglobulinaemia respiratory infections dominate the clinical picture in over 80% of the patients. Repeated attacks of bronchitis or pneumonia, otitis media, skin and eye infections, or intractable diarrhoea and failure to thrive are the presenting features. Some babies show repeated infections for one to two years, with subsequent cure. The temporary hypogammaglobulinaemia represents a mild defect, with late appearance of immune responsiveness. Permanent Ig deficiency is a serious disability even when treated regularly with gammaglobulin and prophylactic antibiotics. The gammaglobulin injections are painful, and systemic reactions resembling anaphylactic shock are not uncommon. The M.R.C. working party has made great efforts to set standards of purity for the production of human gammaglobulin and to find the best schedule for injections, but despite the avoidance of aggregated or denatured globulin unpleasant reactions continue to occur in an unpredictable fashion in up to 20% of patients on regular replacement. Future studies are urgently required on the possible role of cellular immunity and perhaps of IgE reaginic fractions in these complications.

There is also an acquired form of primary hypogammaglobulinaemia. It occurs more often in women than men and is in some way connected with autoimmunity. Addisonian pernicious anaemia with gastric atrophy, or lesser defects of vitamin B₁₂ absorption, have been found in some cases. Another important association is with malignant disease, especially of the lymphoid organs. In the M.R.C. trial malignant disease was diagnosed in nine cases, mostly women. In some this might represent an abnormal lymphoreticular response to the antibody deficiency syndrome rather than a true lymphoma, but in other instances it is more likely that loss of antibody function has interfered with the surveillance mechanisms which normally ensure destruction of antigenic mutants connected with malignant transformation.

¹ Roitt, I. M., Greaves, M. F., Torrigiani, G., Brostoff, J., and Playfair, J. H. L., *Lancet*, 1969, 2, 367.

² Medical Research Council, *Hypogammaglobulinaemia in the United Kingdom*. Special Report Series No. 310. London, H.M.S.O., 1971.

³ De Koning, J., et al., *Lancet*, 1969, 1, 1223.

Meeting in Cyprus

Next year the Annual Clinical Meeting of the British Medical Association will be held for the first time in Cyprus. A provisional programme appears in the *Supplement* this week to give ample time for readers to think about making arrangements to attend it. In addition to a cordial welcome from the medical profession in Cyprus visitors to the Island may expect the pleasant warmth of the Mediterranean spring. The only previous Annual Clinical Meeting to be held overseas, at Malta, G.C., in 1969, was exceedingly popular, and it is expected that the Cyprus meeting will likewise prove to be so. Consequently early booking is advisable, and the provisional programme includes some information on that.