1976
YEAR BOOK OF
NEUROLOGY AND NEUROSURGERY

The YEAR BOOK of

Neurology and Neurosurgery

1976

NEUROLOGY

Edited by

RUSSELL N. DE JONG, M.D.

Professor and Chairman,
Department of Neurology,
The University of Michigan Medical School

NEUROSURGERY

Edited by

OSCAR SUGAR, M.D.

Professor and Head of the Department of Neurosurgery, University of Illinois Abraham Lincoln School of Medicine

YEAR BOOK MEDICAL PUBLISHERS, INC.
35 EAST WACKER DRIVE • CHICAGO

Printed in U.S.A.

Library of Congress Catalog Card Number: CD38-24

International Standard Book Number: 0-8151-2416-3

Table of Contents

The material covered in this volume represents literature reviewed up to April, 1975.

Neurology, *edited by* Russell N. De Jong, M.D.

Neurosurgery, *edited by* OSCAR SUGAR, M.D.

1976
YEAR BOOK OF
NEUROLOGY AND NEUROSURGERY

The YEAR BOOK of

Neurology and Neurosurgery

1976

NEUROLOGY

Edited by

RUSSELL N. DE JONG, M.D.

Professor and Chairman,
Department of Neurology,
The University of Michigan Medical School

NEUROSURGERY

Edited by

OSCAR SUGAR, M.D.

Professor and Head of the Department of Neurosurgery, University of Illinois Abraham Lincoln School of Medicine

YEAR BOOK MEDICAL PUBLISHERS, INC.
35 EAST WACKER DRIVE • CHICAGO

Printed in U.S.A.

Library of Congress Catalog Card Number: CD38-24

International Standard Book Number: 0-8151-2416-3

NEUROLOGY

RUSSELL N. DE JONG, M.D.

Introduction

It is estimated that multiple sclerosis affects as many as 250,000 United States residents. Currently, immunology and virology are the two major avenues of investigation of the etiology of this widespread disease. In February, 1975, recent advances in these two areas as they relate to multiple sclerosis were presented at a symposium, "Perspectives in Multiple Sclerosis—1975," sponsored by the National Institute of Neurological Diseases and Stroke (Neurology (Minneap.) 25:486, May, 1975). The discussions of the 1st day of the meeting concentrated on research in immunology. Data for the relative risk for multiple sclerosis for persons with various histocompatibility antigens were presented. Recent studies have indicated a significant increase in the relative risk for this disease among persons with HL-A3 and 7 antigens. When mixed lymphocyte studies were added, persons with LD7a had an even higher risk for multiple sclerosis. It is of interest that there is an increased risk for multiple sclerosis in Scandinavia, Scotland and the northern United States and also higher frequencies of HL-A3-7 antigens in these areas. In contrast, the frequency of these antigens is rare in Japan, where the prevalence of multiple sclerosis is low. Blacks with these antigens also have higher rates of multiple sclerosis. It must be stated, however, that persons without these antigens may have multiple sclerosis. Patients with multiple sclerosis also have an increase in B cells and a slight increase in T cells in the peripheral blood. It was also reported that there is a serum factor in multiple sclerosis that is associated with 7S globulins and that blocks lymphocyte activity against chronic measles infection in cells. The importance of this factor in multiple sclerosis must be considered, since a somewhat similar blocking factor is now well documented as being present in the serum and cerebrospinal fluid of patients with subacute sclerosing panencephalitis and may be important in the pathogenesis of that disease.

On the 2d day a thorough review of the slow virus diseases was presented. Measles antibody and other virus antibodies in the cerebrospinal fluid of multiple sclerosis patients were discussed, as was the capability of all paramyxoviruses to result in persistent infections in given cell lines. Further discussions dealt with the role of incomplete virus-proviruses in visna, incomplete viruses, viruses and membranes and "paramyxovirus-like" fuzzy tubules in multiple sclerosis brain tissues.

Ever since the similarity of multiple sclerosis to experimental allergic encephalomyelitis was recognized, the demonstrated role of cell-mediated immunity against myelin antigen in producing disease in the animal model has encouraged attempts to show a similar mechanism in the human disease. The recent investigations into the possibility that a virus or virus-like substance may be of etiologic significance in multiple sclerosis need not minimize the role of immunology in the disease. It is not difficult to reconcile the implications of immunologic studies with those of epidemiologic and virologic investigations. A major role for virus infection in producing autoimmunity is widely accepted. Alternately, a strong cell-mediated immunity against myelin antigen may result in deficient cell-mediated responses against common viral antigens, such as measles. Such a deficiency might permit tissue damage by virus that would not occur in normal persons.

The year 1975 was the centenary anniversary of the founding of the American Neurological Association; the book *Centennial Anniversary Volume of the American Neurological Association, 1875–1975* (New York: Springer Publishing Co., Inc., 1975) was published in celebration. This was edited by Dr. Derek Denny Brown, assisted by Drs. Augustus S. Rose and Adolph L. Sahs. It includes a discussion of the developments in neurology during the past 50 years by Dr. H. Houston Merritt, excerpts from the semicentennial volume of the Association that was published in 1925, biographic sketches of all of the presidents of the Association, a regional history of neurology in North America, a discussion of neurology in the federal government and armed forces, a listing of the academic training centers for neurology in the United States, and a listing of all of the former and present members of the Association.

The year 1975 was also the 25th anniversary of what is now known as the National Institute of Neurological and Communicative Diseases and Stroke. This was founded in 1950 as the National Institute of Neurological Diseases and Blindness. Later, ophthalmologic disease studies were placed in a separate institute and the name was changed to the National Institute of Neurological Diseases and Stroke. The current title was assumed during 1975. The anniversary publication *A Quarter of a Century of Progress in the Neurosciences and Communicative Sciences* (New York: Raven Press, 1975) was issued, with Dr. Donald B. Tower as editor-in-chief. It includes separate sections dealing with the basic neurosciences, the clinical neurosciences, the communicative sciences, manpower and the history of the Institute.

The first reports on computer-assisted tomography had just been published at the time that the 1975 YEAR BOOK OF NEUROLOGY AND NEUROSURGERY went to press, and the facilities for carrying out such studies were available in only a few of the major medical centers. Now the tomographic scanning apparatus is being widely used for the diagnosis of intracerebral diseases of various types—neoplastic, vascular and degenerative, as well as others. It seems to be most helpful in the diagnosis of cerebral neoplasms. Additional use and experience, however, will be necessary before further statements can be made about its accuracy in diagnosis. The automatic computerized transverse axial tomographic scanner is now in commercial production. With this, it is now possible to scan all parts of the body. It has proved to be of most help in the diagnosis of tumors of the larynx, pharynx, thyroid and parathyroid glands as well as pathologic conditions of the spine and spinal cord.

A centennial bibliography of Huntington's chorea, edited by Drs. G. W. Bruyn, F. Baro and N. C. Myrianthopoulos and published by Martinus Nijhoff (The Hague, The Netherlands) was compiled and prepared as a result of the instigation of the World Federation of Neurology's Research Group on Hungtington's Chorea, and the project was aided financially by the Huntington's Chorea Foundation. Its preparation was stimulated by the Centennial Symposium on Huntington's Chorea held in Columbus, Ohio, in April,

1972. The monograph is the result of the effort by a small group of people to read and annotate all of the papers on Huntington's chorea that were published in the scientific press over a period of a century. The monograph is probably the first in medical history to provide a correct, exhaustive and analyzed bibliography on a single disease.

RUSSELL N. DE JONG, M.D.