Preface

It is recognized that scientific journals and books not only provide current information but also facilitate exchange of information, resulting in rapid progress in the medical field. In this endeavor, the main role of scientific books is to present current information in more detail after careful additional evaluation of the investigational results, especially those of new or relatively new therapeutic methods and their potential toxic side effects.

Although subjects of diagnosis, drug development, therapy and its assessment, prognosis of tumors of the central nervous system, cancer recurrence, and resistance to chemotherapy are scattered in a vast number of journals and books, there is a need to combine these subjects in single volumes. An attempt will be made to accomplish this goal in the projected 14-volume series of handbooks.

In the era of cost-effectiveness, my opinion may be minority perspective, but it needs to be recognized that the potential for false-positive or false-negative interpretation on the basis of a single laboratory test in clinical pathology does exist. Interobserver or intraobserver variability in the interpretation of results in pathology is not uncommon. Interpretative differences often are related to the relative importance of the criteria being used.

Generally, no test always performs perfectly. Although there is no perfect remedy to this problem, standardized classifications with written definitions and guidelines will help. Standardization of methods to achieve objectivity is imperative in this effort. The validity of a test should be based on the careful, objective interpretation of the tomographic images, photomicrographs, and other tests. The interpretation of the results should be explicit rather than implicit. To achieve accurate diagnosis and correct prognosis, the use of molecular criteria and targeted medicine is important. Equally important are the translation of molecular genetics into clinical practice and evidence-based therapy. The translation of medicine from the laboratory to clinical application needs to be carefully expedited. Indeed, molecular medicine has arrived.

This is the 14th volume in the series Tumors of the Central Nervous System. As in the case of the 13 previously published volumes, this volume mainly contains information on the diagnosis, therapy, and prognosis of brain and spinal cord tumors. Various aspects of a number of tumor types, including angiocentric glioma, pilomyxoid astrocytoma, pituicytoma, pediatric low-grade gliomas, meningiomas, and spinal cord tumors, are discussed in this volume.

Neuroblastoma is a malignant tumor of the sympathetic nervous system and occurs most often in children before the age of 5; it rarely occurs in adults. Amplification and overexpression of the MYCN proto-oncogene occur in approximately 20% of neuroblastomas and are associated with advanced stage disease, rapid tumor progression, and poor prognosis. Aberrant regulation of miRNA expression has disease, rapid tumor progression, and poor prognosis. Aberrant regulation of miRNA expression has been reported in a variety of cancers, including neuroblastoma. The molecular mechanism underlying the role of N-myc oncoprotein in miRNA expression neuroblastoma tumorigenesis is explained.

Another subject discussed in detail in this volume is the development of central nervous system (CNS) metastasis from non-small cell lung carcinoma (NSCLC). Indeed, a significant proportion of NSCLC patients develop CNS metastasis, resulting in considerable morbidity and mortality. The discussion concentrates on providing currently available information on pathology, diagnostic imaging, and management of such brain metastases.

By bringing together a large number of experts (oncologists, neurosurgeons, physicians, research scientists, and pathologists) in various aspects of this medical field, it is my hope that substantial progress will be made against this terrible disease. It would be difficult for a single author to discuss effectively the complexity of diagnosis, therapy, and prognosis of any type of tumor in one volume. Another advantage of involving more than one author is to present different points of view on a specific controversial aspect of the CNS cancer. I hope these goals will be fulfilled in this and other volumes of this series. This volume was written by 20 contributors representing eight countries. I am grateful to them for their promptness in accepting my suggestions. Their practical experience highlights their writings, which should build and further the endeavors of the reader in this important area of disease. I respect and appreciate the hard work and exceptional insight into the nature of cancer provided by these contributors. The contents of the volume are divided into three subheadings: Pineal Tumors, Pituitary Tumors, and Spinal Tumors for the convenience of the reader.

It is my hope that the current volume will join the preceding volumes of the series for assisting in the more complete understanding of globally relevant cancer syndromes. There exists a tremendous, urgent demand by the public and the scientific community to address cancer diagnosis, treatment, cure, and hopefully prevention. In the light of existing cancer calamity, financial funding by governments must give priority to eradicating this deadly malignancy over military superiority.

I am thankful to Dr. Dawood Farahi and Philip Connelly for recognizing the importance of medical research and publishing through an institution of higher education. I am also thankful to my students for their contribution to the preparation of this volume.

Union, NJ, USA M.A. Hayat
February, 2015

http://www.springer.com/978-94-017-7223-5

Tumors of the Central Nervous System, Volume 14
Glioma, Meningioma, Neuroblastoma, and Spinal Tumors
Hayat, M.A. (Ed.)
2015, XXXVIII, 98 p., Hardcover
ISBN: 978-94-017-7223-5