

Preface

Ingmar Blümcke

The idea to publish the *Surgical Neuropathology of Focal Epilepsies: Textbook and Atlas* arose from our many discussions at local, national and international meetings, as well as multi-head microscopy sessions around the world, in which the demand for a specialised reference handbook became more evident than ever. At my very first attendance at a national epilepsy symposium hosted in Kiel, Germany, in 1995, neuropathology findings were neither discussed with the audience, nor were any posters presented describing epilepsy-associated brain lesions. This situation has dramatically changed over the past 20 years as interest and requests for a systematic histopathological evaluation of human epilepsy tissue has increased at high speed, in both clinical practice and research. Still, no neuropathology textbook or atlas has been made available in these years, with the exception of Lahl, Villagran and Teixeira's *Neuropathology Atlas of Focal Epilepsies* published by John Libbey (London-Paris-Rome-Sydney) in 2003. However, their compilation of a large series of epilepsy patients operated at the Bielefeld-Bethel centre in Germany has not been updated since Dr. Lahl's retirement.

Meanwhile, the International Summer School for Neuropathology and Epilepsy Surgery (INES) was successfully launched in 2013 and goes into its 3rd year of continuous training for students, residents, lecturer, professors and researchers interested in morpho-functional analysis of human epilepsy brain tissue. An INES booklet is provided for each participant, and represents the backbone for our first edition of this textbook. Herein, all three authors reviewed their professional experience in surgical and post-mortem neuropathological studies to compile a coherent summary of clinico-pathological findings, current classification schemes, useful protocols and research data for major histopathological entities of brain lesions encountered in modern epilepsy surgery programmes, which are hippocampal sclerosis, brain tumours associated with early onset epilepsy, malformations of cortical development, brain inflammation and malformative vascular lesions. In his chapter on malformations of cortical development, Harvey Sarnat further emphasises timing and molecular signalling pathways of human cortical development as foundation to better understand the various histomorphological lesion patterns and their phenotypes. Our atlas is edited by Roland Coras and includes 32 case presentations compiled of macroscopic and microscopic images together with a summary of clinical data and magnetic resonance imaging findings that we think is representative for those brain lesions most commonly observed in epilepsy surgery, and accounting for more than 90% of cases collected at the German Neuropathology Reference Centre for Epilepsy Surgery in Erlangen, Germany. We hope that this textbook will be helpful for your daily practice as neuropathologist, neurologist, neurosurgeon, radiologist, as well as researcher or any other profession with interest in epilepsy to understand and recognise the characteristic cellular signature of a given brain lesion. This first edition does not claim, however, to explain or present any possible variant that may present. It is our professional experience that each patient's brain plasticity can produce variability that we cannot demonstrate *in toto* and we are aware that our readers will present cases at conferences in the near future that we have not yet observed and which will remain difficult to classify according to current classification schemes. Please always keep in mind that this phenotypic variability is a common histopathological feature in many epileptogenic brain lesions!

We hope to meet you some day and share your personal experience with *Neuropathology and Epilepsy Surgery*.

Yours

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Erlangen July 23rd, 2015

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