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978-1-107-03816-5 - Atlas of Gross Neuropathology: A Practical Approach

Kathreena M. Kurian, Tim H. Moss and Sandra Camelo-Piragua

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Kathreena M. Kurian

Senior Clinical Lecturer and Consultant Neuropathologist, Institute of Clinical Neurosciences,
University of Bristol, Frenchay Hospital, Bristol, UK

Tim H. Moss

Formerly Consultant Neuropathologist, Frenchay Hospital, Bristol,
and Honorary Senior Clinical Lecturer,
University of Bristol, Bristol, UK

Sandra Camelo-Piragua

Clinical Assistant Professor, Neuropathology Division,
University of Michigan, Ann Arbor, MI, USA



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Preface

The autopsy has always been fundamental to the study of pathology, following in the historical tradition of cadaveric dissections by early anatomists such as Galen and Leonardo da Vinci. Even today, recognition of diseased tissue and organs by their naked eye features underpins all histopathology subdisciplines. It is a skill that takes time to acquire and one that must be based on a sufficient length of apprenticeship in the mortuary and laboratory. The gross appearance of tissue is particularly important in the practice of autopsy neuropathology, where it is usually necessary to examine whole brain and spine or cord specimens after they have been fixed in preservative. Under these circumstances, recognition of disease entities in the dissected specimens is vital. Careful gross examination contributes directly to the accuracy of a final diagnosis and also facilitates the selection of tissue for further histological examination.

This book is not intended to supplant first-hand experience of autopsy work, but to act as a visual reference aid to macroscopic neuropathology. The cases illustrated are drawn from a long period of collective experience and we hope that they will prove useful to a wide variety of readers. Many of the conditions included are relatively rare, such that even a dedicated neuropathologist might expect to encounter only very occasional examples in a working lifetime. Under these circumstances, the opportunity to compare the actual gross appearance of a specimen with an illustration of a known example is manifestly invaluable. Some of the chapters, including those covering trauma and spinal disorders, will perhaps prove of particular value to neurosurgeons. We also include more classic and common disorders, since these images are likely to be of more essential interest to general histopathologists and specialist neuropathologists in training.

The case material included here is by no means exhaustive and there are particular exclusions. Specialist aspects of pediatric and forensic neuropathology, for example, are considered beyond the scope of this book, and have already been illustrated in a variety of

other reference volumes. The same is true of primarily histological disciplines such as tumor biopsy pathology. Other topics which are largely microscopic in practice, such as muscle and peripheral nerve pathology, have also been excluded. However, in many conditions it is impossible to separate completely the gross and histological aspects of autopsy neuropathology. In routine clinical practice, adequate examination of brain and spinal cord specimens is frequently dependent on subsequent histological study and may also be enhanced by knowledge of the radiological features. While we have elected not to include radiological images, which are well illustrated elsewhere, we did feel there was a need for a limited amount of histological representation in an atlas of gross neuropathology. In some instances, this takes the form of low magnification photographs of histological whole-mounts, stained to help emphasize architectural features. Where possible, these preparations have been taken from the same specimen as that in a matching macroscopic illustration. In other cases, especially neurodegenerative and infective conditions for example, a sample higher magnification image of a typical histological feature has been provided, with the intention of providing basic pathological correlation.

The conditions illustrated in this atlas have been divided into very broad diagnostic categories. Rather than attempt to follow any formal classification, we have elected to group the case material under twelve basic chapter headings, each subdivided for ease of quick reference. There is a general background introduction to each chapter, but each image is also accompanied by an amplified text legend. These legends are designed not just to help interpret the features illustrated, but also to provide relevant background information to the diseases and conditions under discussion. However, this is primarily a visual reference work and does not attempt to provide comprehensive academic detail. For those wishing to pursue a topic in greater depth, suggestions for further reading are given at the end of each chapter.

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