

Preface

We introduced our first edition of this book with the statement that ‘our understanding of the genetics of common diseases has come a long way in recent years’. That statement is as true now as it was then but even we could not have foretold the enormous strides being made in the genetics of all the common diseases, with stroke being an exemplar of the complexity and struggles of that science. The advances in our mathematical and statistical capabilities along with the strides in genetic laboratories and, just as importantly, the reduction in manufacturing cost of microarray chip technology have all helped in greatly improving our understanding of stroke genetics. Many thousands of willing patients have agreed to donate their DNA in the hopes of benefitting future generations. Researchers have meticulously and painstakingly compared and contrasted millions of human polymorphisms. The enormity of this task should not be underestimated.

The gratifying popularity of our first edition prompted the publishers to encourage us to produce a second edition. We approached our colleagues from across the continents, and despite their hectic schedules, not one hesitated in responding to our call.

The authors of each chapter in this book have been at the forefront of this research. Ongoing work means that our knowledge will change, perhaps on a daily basis. However, this book is tasked with not just providing a state-of-the-field overview but, just as importantly, principles upon which readers can critically assess future stroke genetics research. The international make-up of the contributors reflects the global alliance within which the stroke genetics community works and is a testament to the collaboration and purpose we all feel in tackling this disease that inflicts such a burden globally.

The book starts with an account of why we even thought that a late-age-related disorder could have a genetic basis. We then describe the genetic tools available in our armoury to discover its molecular aetiology. The book moves on to describe the major single-gene disorders in stroke and then some of its more common presentations. We add chapters on cerebral venous thrombosis and our state of knowledge of genetics of stroke in those of non-European descent. This is timely as by the middle of this century the vast majority of the burden of stroke is likely to lay with Asia.

Our book provides a comprehensive review of the rapidly changing field of pharmacogenetics as it applies to drugs used to prevent stroke and concludes with examples of the challenges that occur when genetics mix with the law.

When asked to undertake this second edition, the editors did not dither. We saw a continuing opportunity to bring clarity to the mass of conflicting data, and we recognise the need to educate and inspire a new generation of stroke researchers and clinicians. Most importantly, we were inspired by our need to provide a comprehensive yet still comprehensible reference for the practicing clinician when faced with a case of familial stroke in the clinic. However, we remain a long way from reaching our goal of a full understanding of stroke at the genetic level.

The promised land always lies on the other side of the wilderness. Havelock Ellis
(1859–1939)

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