BOOK REVIEWS

If you wish to order or require further information regarding the titles reviewed here, please write to or telephone the BMJ Bookshop, PO Box 295, London WC1H 5JR. Tel 071 383 6244. Fax 071 366 6662. Books are supplied post free in the UK and for BFPO addresses. Overseas customers should add 15% for postage and packing. Payment can be made by sterling drawn on a UK bank or credit card (Mastercard, Visa, or American Express) stating card number, expiry date, and full name. (The price and availability are occasionally subject to revision by the Publishers.)


In the preface to this report Sir Patrick Nairne (Chairman Nuffield Council on Bioethics) stressed that:

“Genetic research differs from many areas of medical advances in three distinct ways: first, the astonishing speed of its development; second, the inescapable effect not only on individuals, but also on their families and societies generally; and third, the fear it arouses that it may interfere with the basis of life itself.”

The rapid development of medical and scientific knowledge generates new and continuing ethical challenges but it is suggested that certain ethical principles will remain unchanged. Appropriate responses will be required from the health professions, from health administrators, from the insurance industry, from employers, and from the Government.

The report therefore addresses four important areas: the difficulty in assessing individual’s health risks exposed by genetic screening; the increased complexity of the ethical aspects of confidentiality; the demands made by professional and health resources by the required ethical procedures; the broad framework provided as a safeguard against eugenic abuse.

The contents of the report are best summarised by quoting its recommendations, which cover six main areas:

(1) Providing information and obtaining consent. The report stresses that genetic screening must be voluntary and informed by the availability of adequate information. It is recognised that there will be difficulty in providing “full” genetic counselling at present for all patients considering entering expanding genetic screening programmes because of the small number of trained genetic counsellors currently available. The report suggests that this problem is best addressed by training a large number of practice nurses and health visitors within the broader context of expansion and extension of primary care. Special safeguards are recommended for individuals, second, who are unable to give properly informed consent (minors, the mentally ill, and those with severe learning difficulties).

(2) The results of genetic screening and confidentiality. The spread of genetic screening may cause tensions between the interest of an individual and those of relatives and further discussions are required in health professional bodies. The report emphasises that individuals should normally be fully informed of the results of genetic screening, including the implications for other family members, but that the accuracy of the indication of the confidentiality of medical information should be followed as far as possible. When an individual is reluctant to receive information about his or her condition, that there is little information may be considered to be vital to the interests of relatives, the report recommends that health professionals “... should seek to persuade the individual ... to allow the disclosure of information to other family members.” In rare circumstances “... the individual’s desire for confidentiality may be overridden”.

(3) Employment. The report found little concern that current genetic screening programmes were being misused by employers but recommended that the Department of Employment keeps under review the potential effect of genetic screening on the employee and notes the conditions under which genetic screening of employees might be contemplated.

(4) Insurance. British insurance companies should adhere to their current policies of not requiring any genetic tests as a prerequisite of obtaining insurance. This was based upon the current difficulty of assessing evidence of genetic susceptibility to common disorders, the danger that companies would be overcautious in their assessment of risks, and of the possibility of abuse. The Working Party also recommended that there should be early discussions between the Government and the British Insurance Industry and that in the meantime there should be a moratorium on requiring the disclosure of genetic data unless it is clear from the routine family history that there is a genetic risk. The moratorium should apply only to policies of moderate size.

(5) Public policy. To avoid the possibility of eugenic abuse of genetic screening the Working Party recommended that every effort should be made to improve public understanding of genetic screening. It was recommended that there are limits to the effects of educational work and therefore strongly reiterated its recommendations on adequately informed consent, confidentiality, and the central coordinating body to monitor genetic screening programmes.

(6) Implementation of screening programmes. The Working Party recommended that genetic screening programmes should be regarded largely as pilot programmes governed by the ethical codes applying to research procedures. However, it was also recommended that the Department of Health in consultation with the appropriate professional bodies establish a central coordinating body to review genetic screening programmes and to monitor their implementation. Detailed criteria for introducing screening programmes are given in the report.

The report is generally an excellent document which is concerned with genetic screening for serious disease and, although acknowledging that there is serious concern about genetic screening for human traits that are in no sense diseases, the issues have been deferred for further “... discussion by professionals with skills other than those represented in our Working Party”. The membership of the Working Party, chaired by Dame June Lloyd, is certainly competent to deal with the issues raised by screening for serious genetic disease with representatives from the full range of genetic endeavour from laboratory to clinic and community. They are to be congratulated on a comprehensive, authoritative, and interesting report.

Most important issues are addressed squarely although there is no definitive statement about the propriety of withholding information on CF carrier status when couple testing. There is a clear introduction to the basic facts of genetics with appropriate stress on the importance of non-directive genetic counselling “where possible”. In a report on screening a little more explanation would have been appropriate to provide predictive power and accuracy” and of “sensitivity and specificity”.

RODNEY HARRIS


Had the word encyclopedia been incorporated somewhere in the title, this book would have lived up to any resultant expectations. Thirty three chapters and three appendices contain comprehensive coverage of the molecular genetics of haemostasis and its inherited disorders. The introductory chapter gives a clear, concise account of coagulation and fibrinolysis, followed by brief resumes on some general topics in the context of haemostasis, such as evolution, mutagenesis, and the role of mutation research. Although brief, these sections provide a suitable foundation for the more detailed considerations in the ensuing chapters. The thirty two chapters which follow the Introduction expound on the different key proteins of haemostasis: the constituent proteins of both coagulation and fibrinolysis and the proteins which modulate these two broad groups of haemostatic processes. Generally, one chapter deals with one protein and is, in effect, a mini-review. Indeed, many of the chapters would stand as reviews on their own since the authors have gone to great lengths to leave hardly a stone unturned in discussing their subject, and yet the chapters are not drawn out or rambling, they are succinct and to the point.

Each chapter is similarly structured with a short, informative introduction putting the protein which is about to be discussed into its physiological context. This is followed by sections which can be broadly grouped into two subject areas: protein biochemistry and molecular genetics. The topics covered within these two broad groupings depend upon what is currently known of the protein being discussed and include such areas as structure, function, physiology, post-translational modification, mechanism of action, intermolecular interactions, preparation of antibodies, cDNA cloning, genomic cloning, sites of synthesis, restriction fragment length polymorphisms, and mutations (the latter including database topics). These topics are general indicators of the coverage of the book, however, there are many extra peripheries throughout which give it a deeper interest. For example, the history of haemophilia is overviewed in chapter 2 (factor VIII and haemophilia A) and the pro-
spects for gene therapy are discussed in both chapter 2 and chapter 3 (factor IX and haemophilia B). All chapters also contain section(s) dealing with the clinical implications (if any) of aberrant protein activity. These are valuable sections which give essential clinical perspective to the dry science which forms the main body of the text.

The book ends with three worthwhile appendices: appendix 1, Phenotype analysis; appendix 2, The methodology of mutation detection; appendix 3, Epidemiology of coagulation disorders. These appendices cover ground which is common to all of the preceding chapters and would be of particular interest to the clinical haematologist.

At the completion of reading this book I asked myself whether this was a book for the scientist working in haemostasis or the clinical haematologist specialising in haemostasis. It would serve either. There is considerable scientific and clinical content (the former does predominate) and the two are well interwoven, as indeed they should be.

Finally, the authors state in their preface the very demanding goal that the book would help the interested person "locate within the haemostatic system the likely effect of any mutation". Was this goal fulfilled? If a new mutation is found which affects a domain of known structural/functional importance within one of the proteins of haemostasis, the chapter dealing with that protein may provide sufficient information about the domain or other mutations in that area for the effect of the new mutation to be interpreted tentatively. (Certainly, homing in on the relevant section of the book would not be rate limiting, the Contents are extremely well laid out and the Index is very user friendly.) However, if a new mutation is found in a domain of unknown significance, even the comprehensive coverage of this book is unlikely to shed any light on its possible effect. The book therefore does fulfil the goal proposed in its preface; however, it is a fulfilment qualified as being within the scope of current knowledge. The scope of current knowledge is vast and the authors have been commendably successful in their collation of it. The Molecular Genetics of Haemostasis and its Inherited Disorders deserves to become a reference text of the future.

DERRICK J BOWEN