antiviral is aciclovir. Some studies have suggested the use of corticosteroids in combination with antiviral to reduce pain and hasten the healing process.[12] Our experience of reduced severity of postherpetic neuralgia is consistent with documented evidence.[13] In patients with segmental paresis, complete or partial recovery is about 76% after two years.[6]

Physicians and orthopaedic surgeons need to be aware of herpes motor paresis as a cause for radial nerve palsy especially when associated with skin lesions. Neurological examinations and physiological nerve conduction study will confirm the diagnosis. Multidisciplinary input and prolonged follow-up is needed in treating these patients. The combination of aciclovir and gabapentin, along with physiotherapy, hastens the recovery. In conclusion, herpes zoster causing radial nerve palsy is a rare occurrence but nevertheless needs to be kept in mind as a differential diagnosis for unilateral radial nerve damage.

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book reviews

A short history of medical genetics

By Peter S Harper. Oxford University Press, Oxford 2008. 576 pp. £31.99

I very much enjoyed this book. It provides a thoughtful overview of the development of medical genetics, tracing the evolution of ideas from over 300 years ago to the present day. The different aspects of the discipline are discussed in separate sections, with helpful notes and recommended sources provided at the end of each chapter. It describes how certain key geneticists contributed to the development of these ideas, and provides tantalising, but brief, insights into their personalities and relationships. The only drawback to the chapter/subject approach is that the same players may reappear at different stages in the narrative, when the main discussion about the individual (using a short biography inset) occurs once, giving a curiously time-skipping effect as in some books where earlier and later events are inter-digitated.

The chapter 'Before Mendel' describes some of the early ideas of genetic disorders, with intriguing examples, such as the work of Joseph Adams (1756–1818), who not only distinguished between hereditary congenital disorders and 'dispositions' (where the disorder develops gradually over a lifetime), but also categorised 'predispositions', where an external factor is also needed for the disorder to become apparent in an individual. Further, he opposed celibacy in the family members of individuals affected by 'madness', as a measure to reduce the likelihood of increasing the burden of the disorder, since there had been no observed increase in the frequency of the disorder, and such restraint would only be heeded 'by the most amiable and best disposed' an idea that preceded those of the anti-eugenicists in the mid-1990s. Interesting quotes, such as a poem written by Erasmus Darwin entitled the *Temple of nature*, illustrate the descriptions of the early thinkers in this subject, starting from the 1750s, and it is fascinating to see the evolution of ideas developing from 'the continuity of the germplasm' to our modern understanding of inheritance.

Phenylketonuria (PKU) is used as an example of a condition with autosomal recessive inheritance with the potential for treatment, and the potential for eugenic issues in prevention. Penrose explored PKU as a paradigm for carrier detection, dietary treatment of affected individuals, and approaches to prevention. He examined the argument regarding contemporary promotion of the prevention of recessive diseases by restraint of procreation in carriers and commented:

> *to eliminate the gene from the racial stock would involve sterilising one percent of the population if carriers could be identified. Only a lunatic would advocate the procedure to prevent the occurrence of a handful of harmless imbeciles.*

He also provocatively suggested that any genetic testing for detrimental psychological attributes should begin with politicians:

> *Now that weapons are constructed capable of the instantaneous annihilation of large populations, the question of insuring the intelligence and mental stability of people entrusted with power of decision has become extremely significant.*

The successful treatment of individuals affected with PKU was the first such success, and now the variety of possibilities for treatment of genetic disease has become wide and increasingly possible.

The chapter on population genetics includes a discussion of geographic variation in genetic disease, with reference to anthropology, and the mathematical analysis of the subject, citing the work of Bodmer, Cavalli-Sforza and others, taking the analysis to the present time.

The section on medical genetics is a wide-ranging examination of the way in which genetic knowledge is applied to the clinical setting. Genetic counselling is discussed, with relevance to ethical and societal issues, non-directive approaches and the importance of genetic counsellors in the delivery of the service. Here the issues of how genetic information applied to one individual impacts on the rest of the family, and how this may be managed by the genetics service, are examined. The ways in which the clinical discipline of genetics was developed in different countries is described, with examples, citing for instance the book by Sheldon Reed *Counseling in medical genetics.*[1] Reed was concerned about the possible confusion between genetic counselling and eugenics, and wrote 'I am still completely uncertain as to whether the net effect of genetic counselling is eugenic or dysgenic'. He proposed separating the two issues. The differences between the development of clinical genetics in different countries are discussed, with comment on the problems with post-war reconciliation of the complicity of scientists in the Nazi eugenics regime in Germany.

There is discussion of the detection, management and treatment of genetic diseases, with many examples from the first paradigm of PKU. The final chapter in the section on medical genetics addresses more ethical issues, including those concerning population screening for genetic disorders, childhood testing for late onset disorders, and attitudes to the Human Genome Project. The way in which genetic information is interpreted for the general public is considered, and its importance stressed.

Cancer genetics is only touched upon in this book. This is a little disappointing, as this area of genetics now forms almost half of the clinical load of UK centres, but has largely been a recent development, starting from the late 1980s.

One of the most important and interesting areas analysed in this book is the discussion of the ethical debates around the use of genetic thinking and practice, particularly in relation to the fraught issue of eugenics. There are references to this in many parts of the book, two of which have been cited above. Clearly there has been much controversy about the use of genetic counselling and pressure on individuals with, or carrying, a genetic disorder to refrain from childbearing, and Galton, among others, was disposed to promote the optimising of the population by 'positive eugenics', where individuals with characteristics leading to 'eminence' were encouraged to procreate. This idea became horribly magnified and distorted in the activities of the Nazi regime, where the extermination of the mentally ill and handicapped, and those with genetic disorders, was actually practised. This terrible abuse of genetic ideas and practice was described in a book translated from the German by George Fraser.[2] Modifications of these ideas were tolerated to a surprising extent in many countries until the anti-eugenics movement became stronger and more coherently argued by geneticists, notably Penrose, in the 1950s. These issues are thoughtfully discussed in the chapter 'Genetics and society, with contemplative consideration of the current situation and the possibilities for the future, as more and more information about our genetic constitution becomes accessible. A further aspect of the interaction of societal beliefs and the interpretation and use of genetic ideas is described in the section about genetics in Soviet Russia, where the ideas of Lysenko, a favourite of Stalin, were accepted by the contemporary regime, resulting in the ostracism and oppression of geneticists in Russia for 30 years from the 1930s, and the virtual destruction of the specialty during this period.

This book is an important work, although necessarily not comprehensive, which provides a clear insight into the development of genetics from the earliest ideas to modern times, introducing many important concepts about the interaction between scientific knowledge and society, highlighting the contributions of individuals to the growth of the subject.

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