

the valve was therefore explored. At operation it was found that the explanation of the x-ray appearance was that the "disconnected" part of the catheter was made of clear, non-radio-opaque plastic tubing with direct continuity between the valve and the radio-opaque catheter which started 3 mm from the metal valve (fig 1, inset B). Exploration of the abdomen showed that the peritoneal catheter was blocked with omentum and that portion was replaced. There was free flow of CSF from the end of the peritoneal catheter when it was returned to the abdomen. The patient has remained well postoperatively, more than two years later.

Since this episode, other patients with Cordis Integral valve systems have had their shunt systems x-rayed showing a similar "disconnection". Systems from different batches of manufacture, and both medium and low pressure systems were involved.

It is therefore important that, when such integral systems are inserted, the continuity of the radio-opaque tubing is noted and documented to avoid a subsequent unnecessary exploration. The manufacturers inform us that the permissible gap is less than 3.8 mm, usually between 1–2 mm, so that a small gap is expected and normal. These figures hold for standard (that is, non-paediatric size) valves as well.

Radiologists and clinicians need to be aware of this when studying radiographs so that there is no misdiagnosis of disconnection and an unnecessary exploration is avoided.

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BOOK REVIEWS

Amyotrophic Lateral Sclerosis Concepts in Pathogenesis and Etiology. By A J HUDSON. (Pp 378; Price: UK £50; US (In Europe) \$80.00.) UK Distrib: International Book Distributors Ltd, Hemel Hempstead. 1990. ISBN 0-8020-3446-2.

This book is based on a symposium held in Vancouver, BC, on June 26, 1987, as part of the 22nd Canadian Congress of Neurological Sciences. The contributors from Canada and the United States, address the problem of aetiology and pathogenesis, with consideration of the evidence for possible viral infections, environmental toxins and nutritional factors. Five of the 15 chapters deal with the form of ALS seen in Guam and the Western Pacific. Epidemiological studies related to the use of seeds of the false sagopalm, *Cycas circinalis*, by the Chamorros on Guam, are documented and form the basis for the suggestion that 2-BMAA and chemically related compounds may be responsible for the form

of the disease on Guam. Yet the absence of exposure to cycad for decades before the onset of the disease in many patients throws doubt on the toxic exposure theory.

These chapters bring together the fascinating aspects of the variety of diseases, Amyotrophic Lateral Sclerosis, Parkinson's Disease and Dementia as seen in the Western Pacific. Ganglioside GM2 and β -Hexosaminidase Deficiencies are considered in the context of ALS-like symptoms. Immunological aspects have so far not yielded any fresh clues. Post-poliomyelitis motor neurone disease has a separate chapter. Preliminary findings with PET scanning are presented in the final chapter.

The book is useful to researchers in motor neurone disease but sadly it is already more than 2 years after the symposium was held.

KJ ZILKHA

Spinal Surgery Science and Practice. By R A DICKSON (Pp 560 Illustrated; £140.00.) Guildford, Butterworth Scientific Ltd, 1990. ISBN 0-407-01791-7.

This volume covers comprehensively this important domain of interest to both orthopaedic and neurosurgeons. The Editor, known for his knowledge of spine deformities, says that it is principally addressed to the senior resident and to the learning spine surgeon. The book is well produced. The many illustrations and charts are clear. Thirty two authors have contributed twenty eight chapters.

Three chapters describe the topography of the spine, bony landmarks and surgical approaches. These are illustrated. George Dommissie, renowned for his knowledge of the blood supply to the spinal cord, has contributed a distillation of his research. Anyone dealing surgically with the thoracic spine should read it.

Epidemiology of spinal pain: an attempt has been made to cover a vast field (statistics, radiological grading systems, prevalence of spinal disease in urban and rural populations, and occupational factors). The chapter on pain makes it clear that, although much is known about nerve pathways and transmission, much is still to be found. Research is bedevilled by the fact that there is no method of objective pain measurement, and by the fact that races and individuals react differently at different times.

In "Biomechanics of the Motion Segment" is analysed what happens when contiguous vertebrae are stressed. The stability conferred by different types of fusion is compared. Dr Butt gives information about what can be discovered by radiography and what is sometimes concealed by it. He foresees that soon "the entire radiological investigation of a patient with back pain will be handled by isotopes, plain films and MRI". There is a useful explanation of magnetic resonance and expected improvements in the technique. Somewhere in these two chapters could have been included a simple "Mars bar standard" comparing the radiation involved in a CAT scan with, say, a chest film.

Lumbar disc disorders are expertly described by Naylor and the investigation, diagnosis, treatment and prognosis are included. Every young orthopaedic surgeon should read it. In a chapter on spinal microsurgery it is stated that "Because of better visibility there is less tissue damage", but then more

radiology on the table is necessary. Lumbar disc prolapse in adolescents is one of the few diseases in which healing and recovery is less rapid than in adults. The diagnosis and treatment of cervical disc lesions are described. Three chapters discuss the biomechanics of spinal trauma and treatment. Fixation versus non-fixation is argued. A chapter on congenital anomalies describes the development of the spinal cord and canal and the clinical implications of defects. Dickson and Leatherman have written a masterly monograph on deformities of the spine including scoliosis and Scheuermann's disease.

Chapters 25, 26, 27 and 28: Infections, intra- and extradural tumours. Some of these conditions (including total vertebrectomy) are such that internal fixation is required. This is a field in which neurosurgeons and orthopaedic surgeons combine their skills. The chapter on metabolic and inherited disorders of bone covers an array of subjects. There are four pages of tabulated wealth and although it is true that it must be taught that "the prevention of osteoporosis in elderly people depends on maximum activity when young" it is of little comfort to the lady in whom osteoporosis has occurred. Hormone replacement therapy, as such, is not mentioned. The final chapter, on anaesthesia for spinal surgery, stresses the importance of complete collaboration between the anaesthetist and surgeon—a small chapter for an unsung group of people, without whom, much of this book would be of only theoretical value.

I can strongly recommend it to the specialist group for whom it was designed and also as general reading for a much wider group.

CR BERKIN

SHORT NOTICES

Pocket Atlas of Spinal MRI. By L F CZERVIONKE AND V M HAUGHTON. (Pp 83 Illustrated; Price \$17.50). New York, Raven Press, 1989.

A genuine pocket size atlas showing in detail the normal anatomical structures of the spine and neuraxis, based mainly on T1 weighted SE and GE images. The quality of black and white illustrations is high and they are clearly labelled. An invaluable small textless guide for the many who get lost in the minutiae of foraminae, facet joints and dorsal root ganglia which these marvellous images can show.

Mind and Brain. A Theory of Determinism. Vol 1. By T Honderich (Pp 400; Price: £14.50.) 1990. Oxford University Press. ISBN 0-19-824282-4.

This is an attempt to rejuvenate determinism by using "neuroscience" ideas. There are serious limitations in the analysis of brain-mind relationships and the consequent philosophical deductions as contemplated by non-neurologists. This erudite volume may be more attractive to word-mongering philosophers than to clinical neuroscientists. The neurological part towards the end of the book is unsatisfactory and has little clinical relevance.