Iliac aneurysms

Internal iliac aneurysms are rare. One third of patients complain of pain radiating down the leg. Differentiation from pain due to a lumbar disc herniation and the incidence of disc disease is much higher. CT scanning of the lumbosacral plexus makes the diagnosis considerably easier and avoids unnecessary operations and invasive investigations.

A 74 year old male was admitted on 7 October 1988 with a ten day history of irradiating pain in the left lateral thigh. He had no sensory, motor or micturition difficulties. On examination, straight leg raising was reduced as were the tendon reflexes in the left leg. The interpretation of these findings was difficult due to severe pain.

In May 1988 he presented with signs of a ruptured aortic aneurysm and a trouser graft was inserted end-to-end to the aorta and external iliac arteries. The origin of the left internal iliac artery which was also aneurysmal was ligated. Plain radiographs of the lumbar spine and CT scans of L3-4, L4-5 and L5-S1 were normal, but a pelvic scan showed the aneurysm, with a diameter of 5 cm, in the region of the plexus. There were no signs of bleeding. The patient was operated on the 13 October. An aneurysm containing old blood was found with an arterial feeder. The aneurysm was resected. After the operation the irradiating pain in the left leg was less than before, but the patient had a drop foot. A new CT scan showed a haematoma at the site of the aneurysm, which was contiguous with the lumbosacral plexus (figure). In the course of the next few months the pain disappeared and the drop foot improved considerably. Half a year later the patient died from a malignant tumour of the stomach, unfortunately without necropsy.

"Disconnected" integral ventriculopelvic shunt systems

Patients with hydrocephalus treated with a shunt system frequently attend hospital with symptoms which may be the result of valve dysfunction. It is usual practice to take radiographs of the shunt system, to detect displacement or disconnection. The system most commonly used at Alder Hey Children's Hospital in Liverpool, has been the Paediatric Integral Shunt system incorporating the Hakim mechanism manufactured by Cordis. This system is radio-opaque, apart from the valve chamber itself, and continuity is easily seen on a plain radiograph. We report an anomaly, which was a possible cause of radiographic misdiagnosis.

A three year old child was admitted with a three day history of "not being himself", drowsy and lethargic. He had a Cordis Integral Shunt (ventriculopelvic) inserted at the age of three months for posthaemorrhagic hydrocephalus. A radiograph of the shunt system was thought to show a disconnection at the lower border of the valve itself (fig 1).

To assess whether the patient's shunt was not functioning correctly, a Huber needle was inserted aseptically into the reservoir at the end of the venricular catheter. The intraventricular pressure was raised (180 mm of water), and the column of CSF did not fall when the valve was pumped, suggesting a malfunction of the valve itself or in the tubing distal to the valve chamber. The lower end of

After exclusion of the more common causes of radicular pain a CT scan of the pelvis established the diagnosis which was confirmed by operation and the postoperative clinical course. Vock et al published in this journal a study on the correlation between the anatomy and CT scanning of the pelvis. The postoperative CT scan showed a haematoma exactly at the expected place of the lumbosacral plexus, corresponding with the drop foot of our patient.

We thank RMJM Butzelaar, for performing the operations.

Figure. The CT scan shows compression of the lumbosacral plexus at the anterior border of S1 by a haematoma. On the right the intact plexus is visible. The white arrow points to the lumbosacral plexus.

Figure 1. Skull radiograph showing Hakim integral valve system in situ with a reservoir connection to the ventricular catheter and a "disconnection" at the lower end of the valve (?). It is better seen in the enlargement—inset (A). Inset (B) is an example of the valve system itself, showing the clear tubing connecting the valve to radio-opaque tubing which on a radiograph appears as a "disconnection" (?)

the valve was therefore explored. At operation it was found that the explanation of the x-ray appearance of 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 1·2-2·0 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.

F Walker
RCM Cook
Department of Surgery,
Alder Hey Children's Hospital,
Liverpool L12 2AP, United Kingdom

Correspondence to: Miss J Walker.


BOOK REVIEWS


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 paper presentations from Canada and the United States, address the problem of aetiology and pathogenesis, with consideration of 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 sagapolam, Cynca ciricinalis, 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 cyanide 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, Amotrophic 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-polio-myelitis 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


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 Dommesse, 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 the "Biomechanics of the Motion Segment" it 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 management. 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 this. Houser and Zilkha 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 action 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, 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.

CB Berkin


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 textbook guide for the many who get lost in the minutiae of foraminal veins, facet joints and dorsal root ganglia which these marvellous images can show.


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.
"Disconnected" integral ventriculo-peritoneal shunt systems.

J Walker, R C Cook and R Cudmore

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