In Spinal Cord this month . . .

Profiles of spinal units and services

There are two important articles which belong to the series being published in Spinal Cord on the physical facilities, staffing, epidemiology, policies and patient management in spinal units and services in various countries. There are detailed studies by Iwatsubo *et al* concerning the Labor Welfare Corporation Spinal Injuries Center (LWC) (p. 718) and by Suyama *et al* (p. 720) on the National Rehabilitation Center for the Disabled (NRC). It is interesting to compare and contrast the many features and activities of these two centres. Some special aspects of the care of SCI patients in Japan are discussed such as 'the Japanese life style is not suitable for paralysed people who depend on the use of a wheelchair'.

Unusual herniations of lumbar intervertebral discs

Clinicians must be on their guard concerning unusual lumbar disc pathology and clinical presentation and, as shown by Baba *et al* (p. 725), vital help can be obtained by the use of MRI and selective nerve root infiltration. Their two patients who had extraforaminal lumbar disc herniations at two contiguous intervertebral levels responded well to surgical treatment.

Functional changes in the spinal motoneurons

Using a new fluorescence detection system, Yato *et al* (p. 729) have shown by their experimental study on Yoshimura mice that moderate spinal cord compression with an occupation rate around 20% may be the critical level for functional changes.

The lumbar cerebrospinal pulse wave (L-CSFPW)

An intriguing study by K Nakamura *et al* (p. 735) shows that L-CSFPW arises from pulsations from both the spinal cord and the brain in man. The technique detailed by the authors has the possibility of being a non-invasive method to monitor spinal cord blood flow.

An animal experimental study of chronic spinal cord compression by the use of morphogenetic protein (BMP)

An attempt to mimic chronic SC compression in man, such as occurs with ossification of the posterior longitudinal ligament (OPLL) has been carried out and is reported on by Mimatsu *et al* (p. 740) using BMP in a controlled research project in rabbits. Severe SC compression did not result but the model is likely to be a valuable one to assist our understanding of the early pathophysiology of chronic SC compression.

Health related quality of life (HRQL) in adults who have sustained a SCI in childhood

Understandably, in recent years, increasing interest is being shown in HRQL after a severe SCI and Kannisto *et al* (p. 747) have investigated this in an interesting study in adults who had their SCI as a child. Amongst the important findings are that continence, moving, social participation and working remained as practical problems, although adjustment to other 'life qualities' was good. The authors therefore recommend special emphasis in the rehabilitation of such patients.

Muscle reorganisation following incomplete cervical spinal cord injury CSCI in rats

The pathophysiology relating to functional neurological recovery following an incomplete CSCI in man is not yet fully understood but some animal experimental studies are being shown to be helpful. These include the work of M Nakamura *et al* (p. 752) who now show that partial denervated biceps muscle fibres were reinnervated by the collateral sprouting of the remaining motoneurons which belonged to the same motoneuron pool of the injured motoneurons. The term 'muscle reorganisation' is coined.

The objective evaluation of pain in spinal diseases

Various types and degrees of pain are common in many spinal diseases but objective diagnosis and evaluation of such pain or pains always prove to be difficult. Imasato *et al* (p. 757) provide an important article based on their studies in man by measuring the substance P-like immunoreactivity (SPLI) concentration in the CSF and the theories related to the study are noted. Dealing with such a condition as pain, it is understandable that the authors conclude by placing a limitation on the use of SPLI for an objective assessment *per se* and recommend attention also to other objective data and to psychiatric assessment.

Cervical spondylosis (CS) in paraplegic individuals

A complicated study on CS by Kojima *et al* (p. 768) on paraplegic patients who require to use wheelchairs and a 'normal' control group of people was carried out using a questionnaire and employing integrated electron myography and goniometry. As is appreciated, there are a number of reasons for the development of cervical spondylosis in man but the authors, as a result of their work, found that CS was significantly more common in the paraplegic patients that they studied compared to their control subjects. The reason being, the increased frequency of cervical

motions causing significant mechanical stress. (As a footnote to this article, one may add that there are other biomechanical complications from long term wheelchair use such as shoulder joint disturbances and the carpal tunnel syndrome).

Myelopathy resulting from a T11 level solitary osteochondroma

Some single Case Reports can provide interesting information for readers especially if they include a 'review of the literature'. Okuyama *et al* (p. 773) relate the history of a 60 year old man who had a serious neurological lesion from an osteochondroma.

The treatment of myelopathy resulting from ossification of the posterior longitudinal ligament (OPLL)

Surgeons who treat patients with serious spinal cord compression will be interested in the article by

Fujimura *et al* (p. 777) who give cogent reasons for an anterior, extrapleural approach to decompress the thoracic spine and bony fuse it, the pathology being OPLL, a disease which is mainly found in Japan. The spinal cord is compressed ventrally and this is the reason for the type of operation which is performed by the surgeons for their 48 patients. The cranial limit for the operation described is T3 vertebral body. The benefits from the operation are what would be expected from the nature and extent of the pathology and the severity of the myelopathy. Four patients had a degree of neurological deterioration, in three of which it subsequently improved. Six of seven patients with a post-operative CSF leak healed within 6 weeks.

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