Editorial

Japanese Regional Issue of Spinal Cord

Change is a process that all established Societies and Professions must go through particularly in rapidly changing times if they are to remain vibrant and relevant. The journal of the International Medical Society of Paraplegia has had its name changed from Paraplegia to Spinal Cord. This change was made to promote and publish advances in the basic sciences and the clinical aspects of traumatic and non-traumatic disorders of the spinal cord, the spinal nerve roots and the spinal column.

As will be seen, this issue of Spinal Cord contains several scientific articles on a variety of topics pertaining to work being carried out in different medical centres in Japan. The Editor, Phillip Harris, has in the usual way in 'In Spinal Cord this Month . . .' set out a summary of each of the articles indicating the several new ideas and conclusions of the authors regarding their scientific studies.

There are two papers which provide interesting factual information on Japanese spinal centres, one by Iwatsubo *et al* and the second by Suyama *et al*. Such spinal centres have developed over the years, most probably beginning about 1964 when the Annual Scientific Meeting of IMSOP was held in Tokyo. Tremendous interest developed in Japan in the vital aspects of the causation and treatment of people with spinal cord injuries including their rehabilitation and sporting endeavours with the development of a number of spinal centres with appropriate physical facilities and staffing. For example, Iwatsubo and his colleagues report that they have managed almost 1000 SCI patients. It is also noted that, as in many countries, the population of Japan is aging and those aged 65 years or more make up 15.1% of the population. This is expected to increase to about 27.4% by the year 2025. It is likely that there will be an increase in the incidence of spinal cord injuries among the elderly population, necessitating appropriate measures in all spheres to protect and treat the aging spine which is liable to such changes as spondylosis, osteoporosis and ossification of the posterior longitudinal ligament (OPLL) and/or the ligamentum flavum. Such spines have an increased susceptibility to spinal cord injuries and will result in a major public health problem not only because of the associated morbidity but also

because of the health care that they generate. Great effort should focus primarily on the prevention of spinal cord injury.

The use of recent imaging modalities, particularly MR, promotes a better understanding and awareness of the pathophysiology of spinal disorders causing paraplegia or tetraplegia and acceptance of the preventative measures by the individual but less attention has been given to the pathological characteristics of spinal disorders such as OPLL and OLF as well as to environmental influences on such conditions.

Basic investigations into the pathogenesis of injuries or diseases of the spine and the spinal cord has been enthusiastically pursued and there are three papers published in this Japanese issue. The critical level for functional changes in the spinal motor neurons is given by Yato and co-workers; Minatsu and colleagues discuss ossification of the ligamentum flavum using bone morphogenetic protein (BMP). The work of Nakamura and colleagues on the lumbar cerebrospinal fluid wave (L-CSFPW) presents the possibility of this being a non-invasive method of monitoring spinal cord blood flow.

Long term assessment of SCI patients is important as they may now expect to live for 30 years or more following their injury and have a high risk of experiencing further morbidity which shifts from infection to chronic diseases. Kojima *et al*'s work on the pathomechanism of spondylotic changes in paraplegic patients elucidates that cervical spondylosis is induced by mechanical stress on the cervical spine during wheelchair driving.

Fortunately, neuroscientific advances will, in many aspects, improve the wellbeing of SCI individuals. Understandably there is real ambition to replace degenerated neurons in the damaged central nervous system by transplanting neurons or by delivering nerve growth factors. Such procedures would be extremely beneficial but it may be several years before these therapies can become routinely available for SCI patients.

To Mr Phillip Harris, Editor of Spinal Cord, my colleagues and I wish to express our sincere appreciation for this opportunity of collecting and dealing with these articles for this Japanese Regional Issue of Spinal Cord.

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