
This International Association for the Study of Pain (IASP) publication represents another volume in the series 'Progress in Pain Research and Management' which brings into the focus the problem of chronic neuropathic pain after spinal cord injury (SCI). It used to be regarded as a clinical entity suitable for psychiatric referrals, and contributors state at various points that there has been little therapeutic advance in this realm in the last 50 yr. Stimulated by their awareness of this, IASP had formed a task force in 1997 resulting in the 3rd Research Symposium in 2001, which is crystallized in the present volume. There are 46 contributors from the USA, eight from Scandinavia and Dr Siddall from Sydney, Australia. All bar two chapters draw directly on work on SCI and four chapters present work not previously published.

The mood conveyed is now one of greater optimism for the future; there is even talk of genetically engineered cellular delivery systems which may allow the chronic pain of SCI to be one of its first curable dysfunctions. However, such a statement taken out of context belies the complexity of SCI pain, which together with its unpredictability has bedevilled systematic progress in research and treatment and no adequately sized controlled clinical trials have been published.

Clinical characteristics and assessment are covered in Part I in 82 pages, with a particular focus in Chapter 1 on the need for an internationally agreed taxonomy. In tier one of this classification there is a broad grouping of pain into nociceptive and neuropathic pain. Tier two comprehends 'above-level', 'at-level' and 'below-level' pain within the latter category, whilst the more easily managed musculoskeletal and visceral pain are in place in the former category. The latter, although common in SCI, are not explored further in the book. Tier two is subdivided into tier three for specific structures and pathology.

Strengths and weaknesses of the 28 already published classifications of SCI pain are reviewed in the second chapter, which endorses the proposed new taxonomy if combined with full psychometric and psychosocial evaluation.

The second part in 176 pages covers experimental work with data from both animal and human studies. Findings generally confirm that a principle condition for the development of central 'below-level' pain is the interruption of the spinothalamic tracts bearing thermal and normal pain sensations, but the role of dorsal column sensory input in neuropathic pain is less clear. Loss of grey matter is likely to be important in addition to loss of white matter and sprouting from Rexed lamina I into II is evident after transection. More centrally, microelectrode studies in a small
number of SCI patients during ablation of the thalamus’ principle sensory nucleus, the ventral caudal nucleus, show a number of changes when compared with patients being treated for movement disorders. Changes demonstrable cortically at the level of the cingulate gurus and insula may serve to perpetuate established pain. The third section on ‘Imaging’ concludes with work on the operative treatment of painful syringomyelia with fetal spinal cord graft tissue. It was found that any reduction in pain could usually be related to the cyst regression on follow-up imaging, but the technique is demanding, considering the total extent of the syrinx in some cases.

The fourth part has seven chapters devoted to treatment, with an excellent introduction by Haythornthwaite and Wegener on the difficulties of SCI pain trials. Apart from the factors already discussed above, additional constraints arise from: limitations in mobility; long travel distances; tendency for exacerbations to occur prior to initial consultations; the unreliability of a lidocaine infusion as a predictor; whether or not to dichotomize the outcome, for instance more or less than 50% pain relief; and inclusion in some past studies of patients with low initial pain levels. Their recommendations are for multiple baseline assessments, use of active placebos consistently, multiple measures of outcome, an intention to treat analysis and the need for multicentre trials to achieve the 500 patients required in each treatment group.

There follows a review by Finnerup of the ten pharmacological trials which fulfil the criteria of being randomized, double-blind, and placebo-controlled, though no trial has more than 30 patients, and only half of these trials concerned oral agents. Trazodone was the only representative in the antidepressant category and no oral therapy with the possible exception of lamotrigine has been shown to be effective. The presentation of the results of a pilot study of topiramate by Harden, however, are encouraging and the longitudinal studies of the success of gabapentin as part of combination therapy also merit further study. The final chapter in this section reviews the technique, benefits and complications of dorsal root entry zone coagulation, stressing the lack of effect of cordotomy of the spinal thalamic tracts.

The final chapter by the editors entitled Future Directions emphasizes the need for a multi-disciplinary and multi-component approach, and urges more longitudinal studies as well as multi-centre studies based upon agreed taxonomy. The scientific investigations also need to look at why some with SCI do not suffer pain, and future success in regenerative techniques for motor recovery will be blighted if it is accompanied by neuropathic pain.

The book is an essential read for specialists in spinal cord care, for pain specialists in tertiary pain centres who may occasionally treat patients with SCI and for anyone who is interested in the fundamental mechanisms of neuropathic pain.

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