

EDITOR'S PAGE

Neuroanatomy and neurophysiology of sexual function after spinal cord lesion



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Dear *Spinal Cord* reader,

Sexual dysfunction is a complication of neurogenic diseases, such as spinal cord injury, and in this issue of *Spinal Cord* Everaert *et al.* review the literature on this subject with a view to improving diagnosis and treatment. The authors remind us that erection, emission, and ejaculation are separate phenomena and have different innervations, and a good knowledge of neuroanatomy and physiology makes the understanding of sexual dysfunction after neurologic pathology possible and predictable. The authors specifically look at the neuroanatomy and physiology of psychogenic erection, cholinergic versus adrenergic innervation of emission and the predictability of outcome of vibration and electro-ejaculation. They state that it is important to realise which are the afferent and efferent nerves and where the motor neuron of the end organ is located. When interpreting a specific lesion it is important to understand if postsynaptic fibres are intact or not. Afferents of erection, emission and ejaculation are in the pudendal nerve and descending pathways from the brain. Erection is cholinergic and nitric oxide (NO)-mediated. Emission starts cholinergically (as a secretion) and ends sympathetically (as a contraction). Ejaculation is mainly adrenergic and somatic. For vibratory-evoked ejaculation, the reflex arch must be complete; for electro-ejaculation, the postsynaptic neurons (paravertebral ganglia) must be intact. Those involved in sexual consulting and treatment in spinal cord injured individuals combine the neurologic knowledge with an evaluation of the psychological and emotional aspects of the sexual functions. Are questions about whether sexual intercourse and fathering a child are possible not among the first to appear in a man's mind very shortly after the injury. These questions also play in the mind of their partner and family. We know how carefully answers must be given at such an early stage.

The ideas about sexuality in general are continuously evolving. The knowledge about sexuality after SC injury remains limited within the general population, but this is beginning to change as sexuality is more openly discussed. People who are paralysed write about their sexuality in their books and biographies. Film stars who play the role of individuals with spinal cord lesions present them as complete with their sexuality intact. This evolution will continue, as will the knowledge and treatment possibilities. What is expected to happen to sexuality after SCI will reflect the general ideas of society on this function.

Several manuscripts deal with scales and evaluations. Craven and Moriss discuss a modified Ashworth Scale for lower extremity spasticity. Jensen *et al.* evaluate the reliability and validity of the International Spinal Cord Injury Basic Pain Dataset items as Self-Report measures. Kirchberger *et al.* use the International Classification of Functioning Disability and Health (ICF). Slavin *et al.* developed a Contemporary Functional Outcome Measure for Spinal Cord Injury Research. Lemay and Nadeau assess standing with the Berg Balance Scale in AIS D paraplegic and tetraplegic individuals.

Some interesting clinical reports are included. Seidl *et al.* studied swallowing disorders in patients with tetraplegia. Krause *et al.* studied prediction of somatic and non-somatic depressive symptoms in inpatient and follow up. Kalisvaart *et al.* looked at bladder cancer in SCI patients.

More interesting studies and case reports for you to consider. Enjoy them.