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Letters to the Editor

Spontaneous ejaculation after spinal cord trauma

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Dear Editor,

I am Dr Hossam A. Yasien, from the Department of Dermatology, Andrology & STDs, Faculty of Medicine, Menoufiya University, Menoufiya, Egypt. Spinal cord lesions in humans are associated with impaired ejaculation [1], suggesting that the effects of descending pathways on the spinal ejaculatory mechanism are predominantly excitatory. In rodents, however, there may be an additional and important descending inhibitory pathway [2]. We report a case of a patient in whom a spinal trauma was unusually associated with spontaneous ejaculation.

A 23-year-old male patient presented to our Department of Andrology with spontaneous ejaculation. The patient is single and was previously normal until he experienced an accident by falling from the fifth floor about 8 months ago. The patient was then paraplegic with absent sensation of both lower limbs, urinary and stool incontinence, absent erection including morning erection. Both spinal computerized tomography (CT) and magnetic resonance imaging (MRI) revealed fracture of vertebrae T12, L1 and L2. Neurological examination at that time revealed Grade A impairment according to the American Spinal Injury Association (ASIA impairment scale) with no sacral sparing. Till that time the patient did not report any abnormality in the ejaculation.

Neurosurgeons then decided to perform immediate fixation of the fractured vertebrae, which had been already done to the patient. After 1 month, the patient started physiotherapy for 7 months, after which he gained lower limb power, urinary and fecal control and even erection on excitation, but began to experience spontaneous ejaculation without desire, erection and even in unsatisfactory circumstances like praying in the mosque and during manual work.

This complaint occurs many times per week and sometimes per day without any sexual desire, sexual excitation or any provocative factors with preserved orgasm at every time ejaculation occurs. However, ejaculation occurs normally during masturbation and night emission as well.

By examination, the patient had hyperesthesia of both lower limbs, normal to exaggerated cremasteric and bulbocavernosal reflexes. Anal reflex was normal. The patient's ejaculate was tested for the presence of sperms and was positive. Routine investigations of the patient including fasting and postprandial blood sugar were normal.

Drug history revealed a course of broad-spectrum antibiotics, Metronidazole, Vitamin B12, drugs that decrease edema, like alpha-chemotrypsin and non-steroidal anti-inflammatory drugs. No drugs were received for the current complaint.

Earlier reports of this association have been anecdotal [3], and cord pathology is generally found to lead to the impairment of ejaculation. It is, however, known that a reflex mechanism exists in the T9-L2 (sympathetically driven emission of semen) and S2-3 cord segments (somatically driven propulsion of semen) from which involuntary ejaculation may be produced [2]. Thus in patients with spinal injuries above T9,

ejaculation can be induced using electroejaculation, vibrator stimulation or sympathetic stimulation below the level of the lesion [4, 5]. In rodents this spinal sexual mechanism receives descending inhibition to pudendal motor neurons and lumbosacral interneurons, and, in male animals with a spinal cord transection ejaculation, can be induced by fluid distension of the urethra or by mechanical stimulation of the glans [6] in a manner reminiscent of our patient's symptomatology.

We think that the lesion in this patient was compression more than a cut injury and edema following the fracture or the surgical procedure is global, and affecting not only the site of the injury but extending above and below as well. Denervation supersensitivity of the post-synaptic receptors, which occurs after a long period of compression, may be the cause of this condition.

In summary, we conclude that in humans the overriding supraspinal influence on sexual function is usually excitatory, but it is possible that spinal lesions could result in a situation resembling that in rodents by selectively interfering with an additional, smaller descending inhibitory pathway projecting to the spinal ejaculatory mechanism. In addition, we should consider the phenomenon of denervation supersensitivity in these cases.

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