

## LETTER TO THE EDITOR

**Brown–Sequard described a rare, but important syndrome**

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I read with great interest the case report ‘Brown–Sequard syndrome after embolization after vertebral hematoma’ by Fernandez-Torron *et al.*<sup>1</sup> In this context, it would be appropriate to remember the scientist Charles–Édouard Brown–Sequard who described the syndrome.

Brown–Sequard was born in 1817 on the isle of Mauritius.<sup>2</sup> His father, Edward Brown, was an American with Irish descent and his mother, Charlotte Sequard, was of French descent.<sup>2,3</sup> At the time of his birth, Mauritius was under the British rule and he was born as a British citizen. His professional life was closely related to the Medical College of Virginia in Richmond and Harvard Medical School in Boston, but he was also employed in London and in Paris.<sup>3</sup>

The description of three symptoms, which now is known as Brown–Sequard syndrome, was published in 1855 in his monograph ‘Experimental and clinical researches in the physiology and pathology of the spinal cord.’<sup>2</sup> Before publication, Brown–Sequard performed many experiments on animals. His experimental work was derived from his research on the sensory pathways in spinal cord. Brown–Sequard described the syndrome after he had observed symptoms of hemisection of spinal cord also in humans. The syndrome is described as follows: unilateral paralysis of voluntary motion below the level of lesion, ipsilateral hyperesthesia (observed only in animals); segmental atrophy and sensory loss at the level of lesion; and contralateral analgesia and thermanesthesia few segments below the lesion.<sup>2</sup> Brown–Sequard was probably not aware of the two distinct pathways that conduct sensation in the spinal cord: the spinothalamic tract for pain and temperature and the posterior column for deep, joint and position sense. The distinction of these pathways was described by his

contemporary Moritz Schiff.<sup>2</sup> Hemisection of spinal cord is usually a result of a penetrating trauma, but may be due to infectious diseases, haemorrhage and so on.<sup>1</sup>

The description of the syndrome was not the only contribution of Brown–Sequard to science. Brown–Sequard performed research on the autonomic disturbances, epilepsy, endocrine glands and pulmonary circulation.<sup>2,3</sup>

The article by Fernandez-Torron *et al.*<sup>1</sup> describes a new aetiology of Brown–Sequard syndrome. The article demonstrates the clinical importance of his syndrome as well as his contribution to the understanding of the anatomy of spinal cord.

**CONFLICT OF INTEREST**

The author declares no conflict of interest.

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1 Fernandez-Torron R, Palma J-A, Riverol M, Irimia P, Martinez-Vila E. Brown–Sequard syndrome after endovascular embolization of vertebral hemangioma. *Spinal Cord* 2012; **50**: 636–637.

2 Rengachary SS, Colen CC, Guthikonda M. Charles–Édouard Brown–Sequard: an eccentric genius. *Neurosurgery* 2008; **62**: 954–964.

3 Koehler JK. Charles–Édouard Brown–Sequard (1817–1894). *J Neurol* 2001; **248**: 345–346.