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Cross-facial nervegraft

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Re: Cross-facial nervegraft: past and present

First of all we want to compliment Dr Lee et al. on their well written historical review of cross-facial nerve grafting, entitled: 'Cross-facial nerve graft: past and present'.¹ In it they state: 'In 1879 Drobnik performed the first nerve transfer to reinnervate the facial muscles via an end-to-end neurorrhaphy between the proximal spinal accessory nerve and the distal facial nerve'.¹ This statement requires some historical remarks.

The first facial nerve crossover operations were performed in the last decade of the 19th Century. In 1895, Sir Charles Ballance (1856–1936) from England performed a facial to spinal accessory nerve anastomosis (Fig. 1).² However, traditionally the Polish surgeon Tomasz Drobnik (1858–1901) was said to have preceded Ballance by 16 years, in 1879 (Fig. 1). Drobnik's case was described by Bronislas Sawicki (1860–1931) from Poland in 1903 in the French comprehensive review on surgery of the nervous system entitled: 'L'état actuel de la chirurgie nerveuse',³ which is translated as 'state of the art of nerve surgery'. This extensive work, edited by the French Antoine Chipault (1866–1920), was the result of a vast international enquiry on the progress of surgery of the nervous system in the late 19th Century. It consists of nearly 3000 pages and is divided into three volumes of which the first volume was published in 1902; it was followed by the second and third volumes in 1903.⁴

Drobnik's case is described on page 189 in chapter 14 of the second volume: 'Obs. X. — T. Drobnik. 1879 (obs. inédite). Sujet homme. Paralyse faciale due à la suppuration du rocher. On réunit le bout périphérique du nerf facial avec le bout central de la branche externe du spinal. D'Abord résultat nul, mais après plusieurs mois on apprit que les traits du visage sont devenus plus symétriques.' ('Drobnik united, in a man, the peripheral end of the facial nerve to the central end of the external branch of the spinal accessory. The palsy was caused by suppuration of the petrous bone. Initially it had no results, but after several months, it was ascertained that the features had become more symmetrical').³ It is striking that all observations described by Sawicki in 'L'état actuel' were ranked in chronological order. The only exception was the 10th observation dated in 1879, which was Drobnik's operation. When considering this chronologic order it is logical that Drobnik's operation should have been dated correctly in 1899 instead of 1879.⁵ This is strongly supported by the fact that in 1879 Drobnik was only 21 years old and still in high school. Drobnik began to study medicine only in 1880. It has therefore been concluded that Drobnik did not perform the first facial nerve operation in 1879.⁵ By 1899, however, when Drobnik most probably did perform his facial nerve crossover, he was 41 years old and an experienced surgeon.⁵

Sir Charles Ballance must therefore be credited with the first facial nerve crossover operation in 1895.⁵ In 1903, Ballance said about this operation: '— G.G., a boy 11 years of age, was operated on in 1895 for left-sided otitis media. The left face became paralysed after the operation, and

Figure 1 Pioneers in facial nerve crossover anastomosis, who were involved in nearly a century long controversy over priority. (A) Sir Charles Ballance (1856–1936). (B) Tomasz Drobnik (1858–1901). (Figures are reproduced with permission of Otol-ogy & Neurology.)

facio-accessory anastomosis was performed six months later. The boy disappeared from observation for seven years, but reappeared again in 1902'.² About his patient's condition, at the time of reappearance, Ballance stated: 'His condition now is interesting. There is apparent left facial palsy, flaccid in type, with drooping of the angle of the mouth and widening of the palpebral aperture'.² Ballance also noted the 'old interna-strabismus of the left eye', which, he said, was 'dating from infancy', and which he considered 'quite unconnected with his facial palsy'.² About facial nerve function Ballance remarked: 'All the

muscles of the face react briskly and normally, both to faradism and to galvanism. Taste in the anterior part of the tongue is still absent on the affected side. No voluntary dissociated movement can be carried out in the left face, but on raising the left shoulder against resistance, marked contraction occurs on the left side of the face, and is maintained as long as the trapezius is innervated. Occasional fibrillary tremors occurs in all the muscles of the left face'.² Ballance included some photographs of his patient illustrating the long-term (7 years) postoperative results (Fig. 2). About the surgical procedure Ballance wrote: 'Having first assured ourselves by galvanic stimulation that muscle fibers still survived on the paralysed side of the face, the facial nerve was exposed by operation at its point of exit from the stylo-mastoid foramen. The nerve trunk was cut across as high up as possible, and a minute portion of the distal segment was reserved for microscopic

examination. The spinal accessory nerve was then exposed, its sheath incised at a level convenient for union with the divided facial, and into it the distal segment of the facial nerve was fixed by means of fine silk sutures'.²

For about a Century Drobnik has been wrongly credited with the first facial nerve crossover anastomosis in history, in 1879, probably because of a simple typographical error. It has taken until 2001 to discover that this priority claim was not correct.⁵ The erroneous referencing to this French work, which can be found in a wide variety of manuscripts on facial nerve surgery, seems to illustrate the difficulties in obtaining the original French description of Drobnik's operation. Moreover, one may question whether authors really searched for 'L'état actuel de la chirurgie nerveuse' and read the original description of Drobnik's operation.⁵ Lee et al. stated that Drobnik, in 1879, performed the 'first nerve transfer to reinnervate facial muscles with neurorhaphy between CN XII & CN VII'.¹ They provide the following reference: 'Sawicki B. In: Chipault. The Status of Neurosurgery. Paris: J. Reuff; 1902. p. 189'.¹

In 1916, Frank Place already advised us: 'Take no reference for granted. Verify the reference that your best friend gives you. Verify the reference that your revered chief gives you. Verify, most of all, the reference that you yourself found and jotted down. To err is human, to verify is necessary'.⁶

Figure 2 Photographs of the postoperative results of the first patient in history to undergo a facial nerve crossover anastomosis performed by Sir Charles Ballance in 1895. (A) Facial expression at rest. (B) Facial expression during elevation of the left shoulder. (Reproduced with permission of the British Medical Journal.)

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