

Charles-Prosper Ollivier d'Angers (1796–1845)

Olivier Walusinski

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Charles-Prosper Ollivier d'Angers (1796–1845) is known for having coined the term “syrinx”, from the Greek “syringo” meaning tube, and “myelio” referring to the spinal marrow. The term appears in the second edition, published in 1827, of his *Traité des maladies de la moelle épinière contenant l'histoire anatomique, physiologique et pathologique de ce centre nerveux chez l'homme*. Three editions of this work, progressively expanded, were published from 1823 to 1837. Ollivier charted new territory in authoring this treatise, dedicated exclusively to spinal cord pathology.

Ollivier was born on October 11, 1796, in Angers (France). For him, a military career seemed his only chance for rapid success under Napoleon's glorious empire. He was accepted at the military school, and joined Napoleon's armies in Mainz, after the defeat outside Moscow. He took part in the Battle of Hanau on October 30, 1813, during which he contracted typhus. His military career came to an end when Napoleon abdicated on April 4, 1814. After hesitating between a variety of careers, he entered the medical school in Angers and traveled to Paris in 1820 to defend his doctoral thesis. He spent time in Parisian hospitals and became friends with two professors, both also from Angers, Pierre Béclard

(1785–1825), who taught anatomy and Mathieu Orfila (1787–1853), who taught forensic medicine and toxicology. Béclard suggested the subject of his thesis, which he defended on June 12, 1823: *Essai sur l'anatomie et les vices de conformation de la moelle épinière chez l'homme*. For this work, Ollivier was awarded a gold medal by the Society of Medicine of Marseille. This allowed him to find a new publisher in Paris who was also a former member of the Napoleonic armies, Alexandre Crevot (1787–1830). On October 23, 1823, Crevot published the first edition of his dissertation, more complete than his thesis and entitled: *De la moelle épinière et ses maladies*. The second edition, published in two volumes in 1827, was entitled *Traité de la moelle épinière et ses maladies* [2].

During the following 10 years, Ollivier practiced as a surgeon in Paris. On Orfila's recommendation, he was increasingly called upon as a legal expert. In 1826, he became director of the *Archives de Médecine Légale* and was elected member of the Academy of Medicine. He replaced Béclard as editor for the medical dictionary of Nicolas Adelon (1782–1862), which covered such topics as wounds, aneurisms, and sciatica, etc. [1]. He also contributed to the historical dictionary of medicine under Jean Dezeimeris (1799–1851) [5]. An enterprising man bursting with energy, he dedicated most of his time to forensic medicine, defining infanticide, assessing the degree of guilt in the mentally ill, and defining the clinical criteria by which death is declared. From June 1844, Ollivier complained of continuous headaches, which gradually became intolerable, accompanied by vomiting and a decline in visual acuity. Ollivier died on March 11, 1845 [6].

Ollivier started his thesis with a comparative embryological study of human and animal spinal cord that was

O. Walusinski (✉)
Brou 28160, France
e-mail: walusinski@baillement.com

entirely novel. He went on to review the anatomy and macroscopic anatomical pathology of the spinal cord. He described malformations such as spina bifida in terms of developmental defects and also included a bulbo-cerebellar heterotopia with meningocele that became known as Arnold-Chiari malformation 60 years later, as well as traumatic, inflammatory, and infectious damage to the meninges. Ollivier referred to discoveries by his contemporary François Magendie (1783–1855) in the area of cerebrospinal fluid circulation, but seemed unaware of the physiological flow. As early as 1823, Ollivier argued that “examination of the inner structure of the spinal cord demonstrates that it does not contain a central canal, as some anatomists have maintained”. He added: “several anatomists have argued that a canal exists in the centre of the spinal cord [...]. This canal is presumed to be a prolongation of the fourth ventricle and similar to the canal observed by Mr. Portal”. In 1804, Antoine Portal (1742–1832) wrote: “based on examination of the spinal cord in various subjects, a narrow canal has been observed at its centre that descends to varying levels, and whose upper end opens into the fourth ventricle. It seems reasonable to believe that this canal exists naturally” [7]. In 1828, Louis Florentin Calmeil (1798–1895) noted that “several vertebrate animals (birds, reptiles, fish) maintain throughout their lives a canal in the centre of the spinal cord. Certain anatomists have made a similar observation in adult humans.[...] It is clear that even at an advanced age, a central canal is often found in the spinal cord” [3]. Despite these observations, Ollivier maintained in his book, published in 1827 and 1837, the position he took in his thesis. For Ollivier, the observation of a cavity in the spinal cord was always a pathological feature. Thus, he coined the word syringomyelia precisely for these cases, most often associated, for him, with a spina bifida or after an unknown pathological process. Eventually he would be proved right, but since he did not recognize any clinical features associated with the tube shape in the spinal cord, Ollivier can only be credited with the term “syringomyelia”, a purely anatomopathological description. It was not until the publications in 1882 of Otto Kahler (1849–1893) and Friedrich Schultze (1848–1934) that the clinical symptomatology of syringomyelia as we know it now was associated with the presence of a syrinx [9, 8, 10]. Jean-Martin Charcot (1825–1893) cited Ollivier in his lessons on spinal cord lesions in 1872, crediting him with having probably described two cases and the macroscopic anatomical pathology of multiple sclerosis [4]. Ollivier has the distinction of building the nosological foundations for disorders of the spinal cord, which by his own description had been significantly overlooked.



Charles-Prospér Ollivier d'Angers by Guillaume Bodinier 1821. Université d'Angers, public collection with permission

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