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History of Neurology

Joseph Jumentié (1879–1928), a forgotten neurologist

O. Walusinski

Cabinet privé, 20, rue de Chartres, 28160 Brou, France

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ABSTRACT

Joseph Jumentié (1879–1928), through his clinical skill and expertise in anatomical pathology, enhanced the prestige of the master neurologists he studied under— Jules Dejerine, Augusta Dejerine-Klumpke and Joseph Babiński —and their fame overshadowed the crucial support that Jumentié provided them. Following a remarkable doctoral thesis in 1911, which defined the semiology of tumors in the cerebellopontine angle, Jumentié conducted research into various areas of neurology and authored numerous publications. The present report discusses, as examples of his work, his research on the cerebellum and brain tumors, as well as his contribution to Dejerine-Klumpke's use of serial sectioning to identify the 'fasciculi' of corticospinal tracts. This discussion is introduced by a brief biography illustrated by photographs, most of which have never before been published.

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1. Introduction

Jules Dejerine (1849–1917) and Joseph Babiński (1857–1932) became famous as neurologists and achieved worldwide recognition. There is no question, however, that the value of their work is in part due to the decisive skill and enthusiasm of lesser-known colleagues, such as Joseph Jumentié (1879–1928; Fig. 1). Trained by these two master neurologists, Jumentié remained close to them and faithful to their work, but their fame overshadowed Jumentié's contribution, which has largely been forgotten. This report aims to highlight Jumentié's work and contributions.

Joseph Julien Jumentié was born on 28th October 1879 in Clermont-Ferrand, a city in central France. His father, Alfred Jumentié (1848–1909), was a secondary school teacher; his mother, Mathilde Poisson (1852–1902), was a housewife.

Joseph was their third child. He had one older sister, Marie (1876–1950), and one younger sister, Marguerite (1882–1937); Alfred Jumentié's first child, Madeleine, died in infancy. After a classical secondary education in Clermont-Ferrand, Joseph Jumentié went to Paris to study medicine. In 1901, he passed the competitive exam to become an *externe* in the Paris hospitals, ranking 389th. Following his military service in 1902 (Fig. 2), he worked under: Georges Dieulafoy (1839–1911) in 1903–1904; Dejerine in 1904–1905; Anatole Chauffard (1855–1932) in 1905–1906; and Lucien de Beurmann (1851–1923) and Érasme Bonnaire (1858–1918) in 1906–1907. Then, ranking 70th on the 1906 *interne* (house officer) exam, he went on to work with: Robert-Théodore Wurtz (1858–1919) in 1907–1908 (Fig. 3); Georges Hayem (1841–1933) and Joseph Castaigne (1871–1951) in 1908–1909; Dejerine in 1909–1910 (Fig. 4) and Babiński in 1910–1911. All of his teachers praised him highly: Dejerine described him as an “excellent student” and “excellent

E-mail address: walusinski@baillement.com.

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Fig. 1 – Joseph Jumentié at Hôpital La Salpêtrière in 1910. (BIU Santé, Paris, public domain).



Fig. 3 – Jumentié as an interne at Hôpital Boucicaut in 1907. (BIU Santé, Paris, public domain).

interne”; and Babiński noted he was “extremely good” at his work. With Jules Dejerine presiding over his jury, Jumentié defended his thesis in 1911, which was dedicated to Babiński, Dejerine-Klumpke (1859–1927) and André Thomas (1867–1963) [1]. By 1912, he was *chef de clinique* (senior house officer) under Dejerine at Hôpital La Salpêtrière (Fig. 5). Jumentié then prepared for the 1913 *agrégation* exam [2], but the French government invalidated the results due to irregularities. Because of the war, it was not until 1920 that the next *agrégation* exam took place, and Jumentié did not participate [3].

In 1928 at the Société de Neurologie, Maxime Laignel-Lavastine (1875–1953) paid this tribute to Jumentié [4]: “Our colleague’s scientific career was utterly straight, without incident, like a national highway.” He went on to add: “His large, wiry body, which seemed difficult to raise upright, was

nonetheless in harmony with his fine head, intelligent and gentle, and his long golden beard. Jumentié spoke with measure and precision, never searching for words or rambling on unnecessarily; his speech was the expression of his soul in all its clarity, method, conscientiousness and goodness” [4]. During World War I, after being a military assistant close to Dejerine in La Salpêtrière, he helped Joseph Grasset (1849–1918) and Maurice Villaret (1877–1946) at the Neurology Center of the 16th Region in Montpellier. He married Denise Mayeux on 15 June 1918; they had no children.

An important donation was made after Jules Dejerine’s death: “Worried about the fate of Prof. Dejerine’s normal and pathological anatomy collections, which in 1917 were taken from La Salpêtrière to Prof. Letulle’s laboratory at the medical school, Mrs Dejerine set up a fund of ten thousand francs for the foundation and operation of a Dejerine museum, where French and foreign scholars could consult her late husband’s works and even conduct neuropathology research” [5]. In 1920, Dejerine-Klumpke put Jumentié in charge of the ‘Dejerine Collection’, which included numerous anatomical sections, photographs and medical literature; Jumentié would also direct the associated Dejerine laboratory [6]. His successor would be Jean Lhermitte (1877–1959).

Jumentié worked with André Thomas at Hôpital Saint-Joseph in Paris, and was also a physician at the Fondation Galignani in Neuilly-sur-Seine, west of Paris. William Galignani (1798–1882), a journalist and publisher, bequeathed 7000 square metres of land to the Assistance Publique (Paris public hospitals) so that a retirement home for poor writers and artists could be built. Still in existence today, this institution opened its doors on 22nd July 1889 [7]. Was it Jumentié’s talent as a painter that led him to work there? He exhibited his work at the 1912 Salon for physician-painters. As one critic noted: “His renderings of wild orchids and his choice of colors reveal his careful and artful attention to detail, as well as an impressive modesty: all of his watercolours are very small” [8]. In 1928, shortly before his death, he once again exhibited his work, this time two paintings— *Le Clocher de N-D. du Fort à*



Fig. 2 – Jumentié in military service in 1902. (Family private collection, with kind permission).



Fig. 4 – Jumentié at Hôpital Saint-Antoine in 1908. (BIU Santé, Paris, public domain).

Etampes and *La Fontaine de l'Abbaye de Valmagne* —depicting places he particularly liked [9].

Jumentié's death on 26th May 1928 at his Étampes house, south of Paris, where he had gone for rest, was sudden and violent: "Already in a state of fatigue, he all at once felt something claw his heart" [4].

2. First publications

For the semiology of balance, Jumentié found the best possible training by working with Thomas and Babiński. Thanks to Dejerine and Dejerine-Klumpke, he developed exceptional knowledge of and skills in the anatomical pathology of the nervous system; his mastery was already evident in 1909 in his

first publications as an *interne*. Some of these works were collaborations with Louis Paul Chenet (1881–?) and Albert Sézary (1880–1956); all three men worked on a paper addressing a case of myopathy resembling Erb's childhood myopathy, but with onset at 60 years of age: '*Myopathie du type juvénile d'Erb ayant débuté à 60 ans*' [10]. Following the 13th May 1909 session of the Société de Neurologie de Paris, Jumentié published '*Contribution à l'étude des fibres aberrantes de la voie pédonculaire et de la dégénérescence de la pyramide et du ruban de Reil dans les lésions de l'étage antérieur du pont*' ('Contribution to the study of aberrant fibers of the cerebral peduncle and degeneration of the pyramid and Reil's ribbon in lesions of the anterior portion of the pons') [11]; after the session of 3 June 1909, he published '*Un cas de syringomyélie avec mutilations spontanées des doigts*' ('A case of syringomyelia with sponta-



Fig. 5 – Jumentié, *chef de clinique* under Jules Dejerine in 1912, is seated to the left of Dejerine-Klumpke, and has a rabbit in his hands. (BIU Santé, Paris, public domain).

neous involuntary mutilation of the fingers”) [12]. Sézary had already presented the case of a ‘juxta-midbrain tumor’ in June 1907 to the Société anatomique [13]. In 1909, Jumentié and André Thomas wrote an article that appeared in the *Revue Neurologique*, entitled ‘*Sur la nature des troubles de la motilité dans les affections du cervelet. Dymétrie et discontinuité du mouvement–Tremblement kinétique et statique.–Perturbation des réactions d’équilibration.–Asynergie*’ (‘On the nature of movement problems in cerebellar conditions. Dissymmetry and discontinuity of movement–Kinetic and static tremor.–Disturbance of balancing reactions.–Asynergia’) [14]. Based on the observation of a patient, they analyzed disturbances in movement control, especially tremor and dissymmetry; the resulting paper provided training material for a recently established semiology. They concluded: “The cerebellum is the source of muscle tone variations which ensure the adjustment and regularity of movement, as well as the recovery and maintenance of balance.”

3. Basis for Jumentié’s doctoral thesis

In 1911, Jumentié defended “his excellent thesis” entitled ‘*Les tumeurs de l’angle ponto-cérébelleux*’ (‘Tumors of the cerebello-pontine angle’) [15]. After tracing how knowledge of these tumors developed from the 18th century onwards, examination of Jumentié’s neurological training might explain his choice of subject for his “inaugural dissertation”.

The first macroscopic anatomical pathological description of a tumor in the cerebellopontine angle dates back to 1777, written by Eduard Sandifort (1742–1814), an anatomy and surgery professor in Leiden (Netherlands) who dedicated a chapter of his anatomical pathological treatise to a case of deafness: ‘*De duro quodam corpusculo, nervo auditorio adherente*’ (‘A hard corpuscle attached to the auditory nerve’). The following excerpt was translated from Latin: “The ‘hard body’ is not only connected to the lower part of the said nerve, but is also attached to the closest part of the medulla oblongata from which the cranial nerve pair VII emerges, penetrating as far as the foramen in the inner part of the petrous section of the temporal bone” [16]. Sandifort attributed the observed deafness to this hardened tumefaction of the auditory nerve. As he considered diagnosis impossible during the patient’s lifetime, he saw no therapeutic remedy for this pathology.

In 1810, Jean-Baptiste A. Lévêque-Lassource described the case of A. Deville, a 38-year-old seamstress who had gone blind, then deaf, and who suffered from vertigo, headaches and vomiting accompanied by “difficulty in forward motion, soon followed by an absolute inability to walk, due to great weakness in the abdominal members”. According to her autopsy report, “The pituitary gland contains several puriform sites with a putrid odor [...] the sphenoidal tissues are filled with serous fluid mixed with pus. In the middle of the left lateral fossa of the skull, a tumor is observed that originates in the internal auditory meatus and occupies three-quarters of the posterior surface of the petrous part of the temporal bone [...] the tumor occupying part of the internal auditory meatus did not destroy the acoustic nerve or the facial nerve, but merely compressed them [...] It is possible, in my opinion, to

explain the near-general paralysis by the compression of the pons” [17].

In 1830, Charles Bell (1744–1842) examined a young woman suffering first from complete anesthesia in branches V2 and V3 of the trigeminal nerve, then from ipsilateral deafness along with headaches and vomiting. She died following intracranial hypertension. The autopsy revealed a tumor “shaped like a pigeon’s egg” and containing a solid mass surrounded by liquid. Situated at the cerebellopontine angle, it left its compressive imprint on the pons and cerebellum. The cranial nerve pairs could no longer be identified [18]. In 1835, Jean Cruveilhier (1791–1874) treated a patient near death who was suffering from deafness. Her condition was gradually complicated by blindness, terrible headaches and convulsions; this fits the clinical picture for intracranial hypertension, which Cruveilhier described perfectly. According to the autopsy report, “The tumor was fibrous and did not show any signs of cancerous degeneration [...] it seemed to arise not from the bone but rather from the portion of the dura mater that extends into the internal auditory meatus; furthermore, it was impossible to recognize the internal auditory meatus in the middle of the anfractuous cavity that brings it together with the jugular foramen [19] (Fig. 6).

Whereas Hughlings Jackson (1835–1911) and William Richard Gowers (1845–1915) in England and Ludwig Bruns (1858–1916) and Hermann Oppenheim (1858–1919) in Germany documented a few isolated observations in which anatomical pathological examination revealed a tumor in the cerebello-pontine angle, the first specific review was compiled by Carl Sternberg (1872–1935) in 1900 in Vienna [20]. He published four personal cases, along with those reported by the four above-mentioned authors. Based on his anatomical pathological examination, he proposed the term ‘gliofibroma’ to describe this acoustic nerve tumor without recognizing that it originated from Schwann cells, which Theodor Schwann (1810–1882) had first described in 1839 [21].

It is possible that Constantin von Monakow (1853–1930), in 1900, was the first to diagnose a living patient [22]. In 1902, the

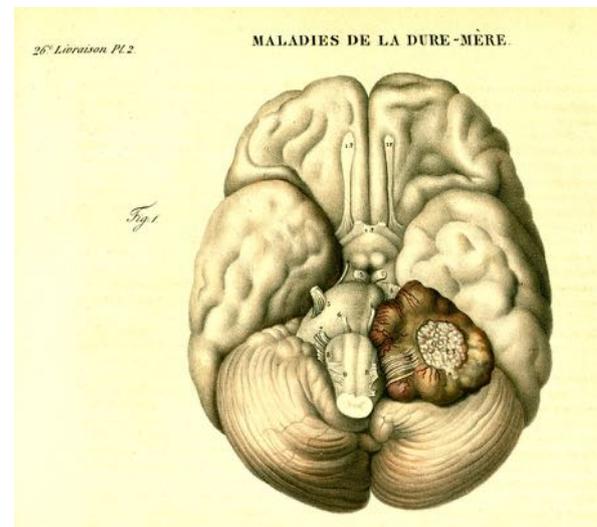


Fig. 6 – Jean Cruveilhier’s “Maladies de la dure-mère. Tumeurs fibreuses du rocher”, 1828. (BIU Santé, Paris, public domain).

Austrian Fritz Hartmann (1871–1937) in Graz reviewed 26 cases from the German literature and established a symptomatology for tumors in the “*recessus acustico-cerebellaris*” that had reached an advanced stage, causing intracranial hypertension. Also in 1902, Richard Henneberg (1868–1962) and Max Koch (1855–1931) in Berlin were the first to use the current name of ‘cerebellopontine angle tumor’ [23] and to distinguish acoustic neurinoma from damage to cranial nerve pair VIII during neurofibromatosis. However, their clinical picture lacked clarity: “The variability and multiplicity of symptoms has often led to inaccurate diagnoses.”

Joseph Babiński (1857–1932) clarified the cerebellar semiology during the 9th November 1899 session of the Société de Neurologie de Paris by addressing “cerebellar asynergia” [24], and then again during the 7th February 1901 session by addressing “cerebellopontine hemiasynergia and hemitremor” [25]. In 1902, Babiński coined the term ‘diadochokinesis’ [26] and, in 1909, he published a summary report on cerebellar semiology [27]. From 1899 to 1923, he studied the case of Henri Mouninou, his famous patient who enabled a more detailed understanding of cerebellar semiology. When Mouninou died, he had Jumentié conduct the post-mortem examination [28].

In 1897, André Thomas (1867–1963), a student of Dejerine, defended his thesis, *‘Le cervelet, étude anatomique, clinique et physiologique’* (“The cerebellum, an anatomical, clinical and physiological study”). This innovative work combined anatomical physiology with an anatomical clinical approach [29].

In 1917, Harvey Cushing (1869–1939) published a remarkable report on these tumors in the cerebellopontine angle [30]. His publication, which cited Jumentié’s thesis, is still considered relevant today.

4. Doctoral thesis

During the 7th July 1910 session of the Société de Neurologie, Jumentié presented, with André Thomas and Gustave Clarac (1884–1917), an observation that he would also use in his thesis as observation V: *‘Tumeur de l’angle ponto-cérébelleux. Observation clinique avec autopsie’* (“Tumor in the cerebellopontine angle. Clinical observation with autopsy”) [31]. The session report noted that the presentation was based on “work performed in Professor Dejerine’s department (Salpêtrière) and in Doctor Babiński’s department (Pitié)”; thus, it brought together two teams that a certain degree of rivalry had separated in the past. The patient was first examined by Dejerine, then treated by Babiński. The cerebellar disturbances, predominantly on the right, were associated with damage to cranial nerve pairs V, VI, VII and VIII, and with intracranial hypertension. The outcome was fatal. The autopsy revealed a hemorrhagic encapsulated mass compressing the middle cerebellar peduncle and all the cranial nerve pairs listed above.

At the 9th March 1911 session, Sézary and Jumentié presented the histopathological analysis of five cerebellopontine tumors, which Jumentié would discuss in his thesis [32].

In total, his thesis included 12 observations, with details concerning both the history of the disease and repeated clinical examinations. He had prepared eight of these observations himself. An in-depth anatomical pathological

study was conducted for each case. In this way, Jumentié brought together Babiński’s department, where the patients were treated, and Dejerine’s laboratory, where the anatomical pathological studies were carried out. He paid this indirect tribute to his teachers: “Without going into the anatomical details, we refer the reader to the excellent figure of the region given in *‘L’Anatomie des centres nerveux’* by Mr and Mrs Dejerine [33].

After an anatomical clinical description of the space in which these tumors developed, Jumentié explained the associated clinical symptoms as arising from compressive extension of the surrounding structures. He characterized the tumors as follows: “Having the same characteristics of location, of appearance, and probably of structure, they seem by far to be the most frequent of nerve tumors, and the fact that they are always closely related to the cranial nerve pair VIII led them to be called acoustic tumors from the beginning.” Jumentié’s thesis included a long discussion of how to examine patients and, in particular, the proper methodology for assessing hearing and balance. For example, there are seven pages covering nystagmus tests and their interpretation. Jumentié explained the frequency of sixth nerve palsy, often at an early stage and secondary to tumor compression of the nerve. In his view, this symptom was important for diagnostic purposes when associated with deafness.

In the chapter on “cerebellar disturbances”, Jumentié covered the cerebellar semiology in detail, as taught by Babiński, and noted: “We have made a point of not using ‘cerebellar ataxia’ in the study of these symptoms; this term is misleading in that it suggests movements like those of tabes patients, whereas it is increasingly common, and well-founded, to distinguish these movements from tabetic movements.” Jumentié’s thesis repeatedly draws attention to the extreme difficulty that his contemporaries faced in diagnosing these tumors without imaging techniques. All of the patients under treatment suffered from intracranial hypertension, with terrible headaches and pronounced papillo-edema or, in some cases, blindness preceded by impaired color distinction, a clinical sign proposed by Harvey Cushing (1869–1939) in combination with the eponymous triad (hypertension, bradycardia, irregular breathing). To provide practical help to physicians, Jumentié proposed the first concise set of syndrome characteristics for diagnosing cerebellopontine angle tumor in a living patient:

- “compression of the vestibulocochlear nerve as well as cranial nerve pairs V, VI and VII;
- pronounced cerebellar disturbances;
- mild disturbances in efferent motor paths, cerebral hypertension syndrome.”

The differential diagnosis for intracerebellar tumors, intrapons tumors, skull base tumors, or syphilitic or tuberculous basilar meningitis remained very complicated. Following this clinical summary, Jumentié described the tumors themselves: “Our examinations indicate that all cases involved neuroglia [...]. All of the tumors were gliomas.” Jumentié based this finding, and exclusion of possible fibrosarcomas, on macroscopic elements (ovoid shape, few surface bumps, color, consistency) and on microscopic elements (abundance of

vessels, frequency of intratumoral hemorrhages, presence of hyaline masses, fibrillary appearance with streams or swirls, regular clear elongated nuclei). “We used Weigert’s elective method, and we obtained the coloration specific to neuroglia” (Karl Weigert [1845–1904]) [34]. As for the surrounding compression, its slow progression explained the type of lesions, and “the compression alone, without destruction, was sufficient to produce the functional disturbances”.

For treatment of these tumors, although they were considered “eminently enucleable”, the curative “extirpation” method or “decompressive method” allowed survival only in rare cases, with the sequelae of complete and definitive deafness and facial palsy, as noted by Paul Lecène (1878–1929) in 1909 [35].

Critics recognized the quality and significance of Jumentié’s thesis. Etienne Feindel (1862–1930) wrote a long review for *La Revue Neurologique* [36] in which he noted that the thesis “explained the serious diagnostic difficulties”. In *La Presse Médicale* of 21st September 1912, Laignel-Lavastine summed up his review with high praise: “Excellent general work on the question” given that “this is the first general survey in France on these special neoplasms” [37].

When Jean-Alexandre Barré (1880–1967) welcomed Ludvig Pussepp (1875–1942), from Dorpat (Estonia), to the neurological meeting in Strasbourg on 17th May 1925, he noted: “Professor Poussep has the rare advantage of being both a neurologist and a surgeon. He is going to speak to us about tumors in the cerebellopontine angle that he himself diagnosed and operated on with extraordinary success, as we shall see. My friend Jumentié (from Paris), who is both an expert clinician and uniquely skilled in laboratory work, will also speak to us of angle tumors, the subject of his inaugural thesis, which qualifies as a valuable monograph. I hope he will feel your welcome as well as my long-standing and sincere friendship” [38]. This was an occasion for Jumentié to present a case “with spontaneous trepanation at the base of the skull” [39].

5. Expert in “serial microscopic sectioning”

Jumentié authored some 100 articles covering all fields of neurology. Most were published in *La Revue Neurologique*, *La Presse Médicale* and *Bulletins et Mémoires de la Société médicale des Hôpitaux de Paris*. Of course, we can only cite a few examples, such as the article highlighting his commitment to his laboratory work with Dejerine-Klumpke— ‘*Contribution à l’étude des fibres aberrantes de la voie pédonculaire dans son trajet pontin. Les faisceaux aberrants bulbo-protubérantiels internes et externes fascicules aberrants médio-pontins. Pes Lemniscus interne*’ (‘Contribution to the study of aberrant fibers in the peduncular tract in its pons pathway. Aberrant internal and external medulla-pons pathway and aberrant mid-pons tracts. Internal pes lemniscus’) —published in 1910 during his years as an *interne* [40]. Based on one striking case, Dejerine-Klumpke and Jumentié re-examined a series of other cases in which “we rapidly realized the frequency of these tracts in the lower pons region, close to the medulla-pons sulcus”. The numerous preparations, photographs and drawings that he presented to the members of the Société de Neurologie demonstrated “the frequency of these aberrant medulla-pons tracts, the

considerable variety in their individual shape, volume, and pathway in normal rhombencephalons, or on the healthy side in brains with pathological damage”. As the numbering of the article’s figures indicates (such as ‘section No. 272’), a vast quantity of slides were considered, and reports compiled to arrive at this conclusion: “As the facts we have presented demonstrate, knowledge of aberrant fibers in the peduncular tract in general, and of medulla-pons fibers in particular, is highly important for interpreting degeneration secondary to encephalic lesions in the medial Reil’s ribbon and in the interolivary layer of the medulla oblongata.” Trained for perfection, Jumentié was well prepared for a career as both a clinician and a specialist in anatomical pathology.

In June 1914, Jumentié worked with Dejerine-Klumpke on a “study of the pathway of certain spinal tracts and of the syndrome of long radicular fibers in the posterior columns” [41]. As in other publications, Jumentié demonstrated here again his fidelity to “the fundamental method that Dejerine developed and that he successfully established through positive results and his own tenacity: ‘the method of serial microscopic sectioning’” [42].

6. Third-ventricle tumors

In 1924, Jumentié and the *interne* Louis Chausseblanche (1880–1933) [43] published an article on third-ventricle tumours. It should be noted that, after Pierre Marie’s description of acromegaly in 1889 [44], Babiński described a case of a “pituitary tumor without acromegaly and with suspended development of genital organs” [45]. Babiński’s publication, on 7th June 1900, was almost simultaneous with Alfred Fröhlich’s (1874–1932) in Vienna [46], hence the eponymous Babiński-Fröhlich syndrome. In 1913, Jean Camus (1872–1924) and Gustave Roussy (1874–1948) demonstrated in dogs that hypophysectomy in itself did not result in obesity; the hypothalamus had to be damaged as well [47]. Henri Claude (1869–1945) and Jean Lhermitte (1877–1959) established the clinical aspects in their 1917 publication [48]. Gradually, the physiological role of the “infundibular” or hypothalamic-pituitary region was becoming clearer: “Its relations, still mysterious in many ways, link the functions of the brain to the humblest tissues” [49]. According to Jumentié, “the infundibulo-tuberian syndrome” involved “disturbances in urination rate, sleep and nutrition, generally associated with visual problems such as heteronymous hemianopsia” [50]. He referred to excessive daytime sleepiness and falling asleep at inappropriate times as “narcoleptic episodes” [50]. Differential diagnosis was difficult at that time due to the encephalitis lethargica epidemic, and the fact that the physiology of sleep and waking states was not yet understood. Jumentié wrote primarily about the tumor, specifically its mechanical compressive effects on surrounding areas and the resultant intracranial hypertension. Based on his examinations, he described the tumor as “epithelial with numerous cystic formations having a colloid appearance”. Although two practising physicians, Den Velden [51] and Farini [52], had independently described the antidiuretic effect of posterior pituitary extracts in 1913, and Frederick Banting (1891–1941) and Charles Best (1899–1978) had discovered insulin in 1921,

Jumentié did not yet see the relevance of hormonal messengers. While the concept of neurosecretion had been proposed in 1919 by Carl Casper Speidel (1893–1982) in his thesis [53], it would not gain widespread acceptance until after World War II.

An important moment in Jumentié's brief career took place at a francophone conference of alienists and neurologists (*Congrès des aliénistes et neurologistes de France et des pays de langue française*) held in Tours, France, from 25th to 30th July 1927. Jumentié served as the *rapporteur* for a subject he knew well: "tumors of the lateral ventricles" [54]. The previous year, Jumentié's work for the Fondation Dejerine in collaboration with Antonio Barbeau (1901–1947) in Montreal had resulted in a paper on "multiple tumors in the lateral ventricles; structural variations of these neoformations; associated ependymitis" [55]; in 1924, he had published work on "circumscribed subependymal gliomas in the lateral ventricles" [56]. These tumors manifested themselves through repeated epileptic seizures, leading to status epilepticus, and through severe cognitive deterioration. To diagnose them, "ventricular radiology following injection of lipiodol" was one of the methods used. At the conference, Jumentié took part in an animated discussion during which Henri Claude criticized him for overlooking tumors of the choroid plexuses. In addition, the alienist Dominique Dedieu-Anglade (1867–1950) from Bordeaux pointed out his incorrect diagnosis of a case of Bourneville's disease (tuberous sclerosis), which Jumentié admitted. Other participants in the discussion included Barré, Henri Baruk (1897–1999), Théophile Alajouanine (1890–1980), Henri Roger (1881–1955) and René Gauducheau (1881–1968) from Nantes, who reported on "a few positive results from radiotherapy".

7. World War I (1914–1918)

One of the goals defined when the first World War I patients began arriving was to locate intracranial bullets and shrapnel in order to remove them. At La Salpêtrière, Charles Inffroit (1874–1920) succeeded in locating foreign bodies in the skull using serial sectioning, a forerunner of tomography. In March 1916, Dejerine-Klumpke and Eber Landau (1878–1959)¹ introduced a method of cranial/cephalic topography. It was simpler and involved only the equipment found in radiological vehicles, nicknamed '*petites Curies*'. This name referred to their inventor Marie Curie (1867–1934), whose design called for vehicles with Röntgen equipment that could be used close to combat zones [57]. In November 1917, Dejerine-Klumpke and Jumentié made a set of five diagrams available to physicians at the front line to help them interpret the intracranial pathways of projectiles detected by radiography [58] (Fig. 7).

8. Conclusion

Jumentié's career did not include a university position. He nevertheless succeeded in combining his practice as a clinical

¹ Eber Landau (1878–1959), a graduate of the University of Dorpat (Estonia), had joined Dejerine's department at La Salpêtrière in 1913 to complete his training as a neurologist and neuropathologist.

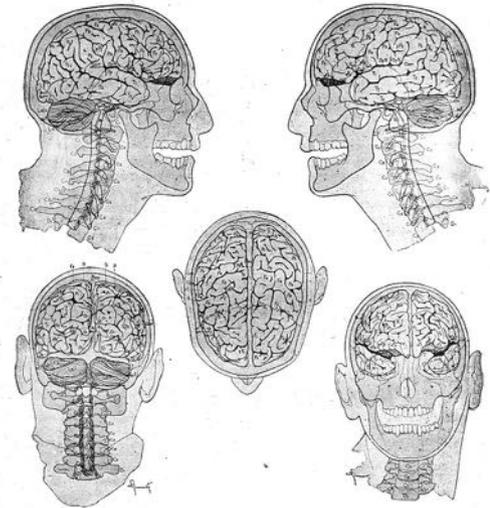


Fig. 7 – Diagrams to help visualize the pathways of intracranial projectiles. (BIU Santé, Paris, public domain).

neurologist at both his private office and at Hôpital Saint-Joseph with advanced anatomical pathological research, which led him to participate regularly in sessions of the Société de Neurologie de Paris. His research involved all aspects of neurology and focused, in particular, on the cerebellum and diencephalon. He made significant contributions through his in-depth study of the semiology of cerebellopontine angle tumors. His thesis set forth the necessary knowledge for early diagnosis of this type of tumor so that patients could undergo surgery before severe intracranial hypertension set in. Yet, despite these contributions, his name is not mentioned in the historical studies in this area [59]. Jumentié also played a role in discovering hormonal activity in the hypothalamic-pituitary region.

Disclosure of interest

The author declares that he has no competing interest.

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