The pioneers of clinical neurology in South America

Ricardo Francisco Allegri *

Servicios de Neurología & Neuropsicología (SIREN), CEMIC (Centro de Estudios Médicos e Investigaciones Clínicas), Galván 4102, (1431FWO) Buenos Aires, Argentina

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Abstract

The field of neurology in South America (SA) began to emerge towards the end of the nineteenth century, following the origin of the specialty in Europe. There was a consistent and long-standing admiration for European training, which led to the birth of the discipline in South America. The first steps took place almost simultaneously with European countries in Argentina, Brazil, Uruguay, Chile and Peru. This paper will unearth information on the pioneers of clinical neurology in SA. Taken together, these sources reveal several important milestones in the long history of the field. The department of Neurology at the Hospital San Roque de Buenos Aires was created in 1885 and headed by José María Ramos Mejía, who then took over as Professor of Neurology at the University of Buenos Aires School of Medicine in 1887. The first institute of neurology in Latin America, the Instituto Neurofísico de Montevideo, was founded in 1926 under Américo Ricaldoni’s direction. Seventeen years later, the Arquivos de Neuropsiquiatria from São Paulo was created, and is still in existence. Up until the present, South America has made dozens of important research contributions, the most important in the diagnosis and treatment of regional endemic diseases.

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Keywords: History; Neurology; Founders; South America; Latin America

Contents

1. Introduction ............................................................. 0
2. Objective .............................................................. 0
3. Material ............................................................... 0
4. Results ............................................................... 0
4.1. Neurology in SA at the end of the nineteenth century ................................... 0
4.2. Neurology in SA between 1900 and 1924 ......................................... 0
4.3. Neurology in SA between 1925 and 1934 ......................................... 0
4.4. Neurology in SA between 1935 and 1950 ......................................... 0
4.5. Neurology in SA after 1950 ................................................. 0
Acknowledgments ............................................................ 0
References ................................................................ 0

* Tel.: +54 11 4546 8227; fax: +54 11 4546 8293.
E-mail address: rallegric@cemic.edu.ar.
URL: http://www.cemic.edu.ar.

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1. Introduction

Latin America (LA) is generally considered to be a part of the so-called ‘Third World’. This “developing” or “underdeveloped” group of countries which nowadays encompasses two-thirds of the world population, produces, according to citation indexes no more than 3% of the scientific knowledge generated in the world each year [1]. At the end of the nineteenth century, however, some national economies underwent important cultural and scientist developments. At that time, the positivist movement spread all over Latin America and helped to create a favorable to science. This well-known “gold period” of science was named “the generation of eighty”. The first neurologists in Latin America emerged in that period, closely following the origin of the specialty in Europe and its official baptism with Charcot at the Salpêtrière Hospital in Paris. The first steps took place almost concurrently in the southern countries of South America: Argentina, Brazil, Uruguay, Chile and Peru. In the other LA countries, its development began later in the 20th century [2].

2. Objective

This paper aims to review the beginning of neurology in South America, the founding of departments of neurology, the birth of scientific societies and the firsts specialized journals. We shall not list and describe all neurologists or SA countries extensively; instead, the most important pioneers of the specialty and their contributions will be highlighted.

3. Material

It is difficult to follow this puzzle of country-specific, scattered information, which has hardly been explored in international publications or even mentioned in local journals with bibliographic references. In fact, many unpublished records have been lost, and as such, we have limited or incomplete information on the development of neurology in certain countries. A search in Index Medicus and Embase was executed using the key search terms “History, Neurology, Latin American, South America and the names of each country” to collect supplementary information, but no related articles were found. In LILACS (Latin American Literature) and Latinindex (Latin American Index) databases, the key search terms, “Historia, Neurología, América Latina, and Sudamérica” and the names of each country were reviewed. The World Federation of Neurology (2006) representatives of each SA country were contacted by e-mail in hopes of soliciting relevant information, as were Society’s chairman, local journal...

<table>
<thead>
<tr>
<th>Argentina</th>
<th>University of Buenos Aires</th>
<th>Jose Maria Flamenco Major (1907)</th>
<th>University of Buenos Aires R. P. Adler (1925)</th>
<th>Sociedad de Neurología, Psupatário y Neurológica, Asuncion (1955)</th>
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<tr>
<td>Chile</td>
<td>University of Chile</td>
<td>Augusto Orrego Lazo (1909)</td>
<td>Sociedad de Neurología, Psupatário y Neurológica, Asuncion (1955)</td>
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<tr>
<td>Brazil</td>
<td>University of Sao Paulo</td>
<td>Antonio Justo Iglesias</td>
<td>Instituto Neurológico de Brasil</td>
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<td>University of Montevideo</td>
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<td>Colombia</td>
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<td>Jose Maria Flamenco Major</td>
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Fig. 1. Chronology of the pioneers of clinical neurology in SA.

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4. Results

A closer look at the key figures and important milestones in the foundational stage of Clinical Neurology in South America will describe in the following paragraphs (see Fig. 1).

4.1. Neurology in SA at the end of the nineteenth century

The foundations of clinical neurology in South America took root in 1885, with the Hospital San Roque de Buenos Aires’ first nervous diseases service. Its first director was José María Ramos Mejía, a writer, sociologist, scientist, and outstanding public presence. In 1887, only five years after Charcot was awarded the chief of neurology position in Paris, Ramos Mejía became the first professor of neurology in South America, at the University of Buenos Aires. In his double capacity as chief and professor, he chartered Argentina’s path in the discipline. His most well-known articles, La neurosis en los hombres públicos de la historia argentina (Neurosis in Public Men in the History of Argentina) and Estudios clínicos sobre las enfermedades nerviosas y mentales (Clinical Studies on Mental and Nervous Diseases), are more sociological and psychiatric than neurological [3,4].

In 1892, Augusto Orrego Luco of Chile, trained in France by Charcot, took over as Professor of Nervous Diseases at the University of Chile. He was the most prominent figure in Chilean neurology during the second half of the nineteenth century, and was nicknamed “Charcot of America” [5].

In the other countries of LA there was not a true foundational stage in this period; there were doctors with neurological training from Europe, but they were not true neurologists as their understanding of the discipline lay within the framework of internal medicine.

4.2. Neurology in SA between 1900 and 1924

Throughout the world, the first quarter of the 20th century saw dramatic innovation in every aspect of neurology. The basic sciences framework for neurology was set by fundamental advances in neurophysiology, led by Sir Charles Sherrington, and the histology and pathology of the nervous system was solidified by Santiago Ramon y Cajal and Camilo Golgi. In 1909, the New York Neurological Institute was created. The world leaders of neurology at that time were: Charles Mills, William Spiller and James Jackson Putnam in the US; William Gowers, Hughlings Jackson, Henry Head, Gordon Holmes in England; Dejerine, Pierre Marie and JF Babinski in France; and William Erb and H Oppenheim in Germany [6].

In Buenos Aires, three assistants collaborated with Ramos Mejía to develop clinical neurology: Christofredo Jakob, a German neuropathologist who trained with Strumpell; José A. Estèvez, well-known for his clinical approach; and José Ingenieros, renowned in the science and political world for his sociological contributions [3]. Jakob, the founder of neuro- pathology in Argentina, was recognized for his systematization of brain slicing and for his efforts to study the myelin sheath. He published the “Folia Neurobiológica Argentina,” a complete compilation of his neuropathological works [7].

In Chile in 1907, Orrego Luco retired and the department of neurology he once led was taken over by his disciple, Joaquín Luco Arriagada (trained by Babinski). The school decided to divide the department, and psychiatry and neurology were coordinated by his assistants, Oscar Fontecilla and Hugo Lea Plaza, respectively [8].

In Brazil, the discipline emerged in 1912 when the University of Rio de Janeiro School of Medicine created its first department of neurology, and appointed its first full professor, Antônio Austregésilo Rodrigues Lima, a politician, writer, and skilled physician, now considered the father of Brazilian neurology. He was the first to study movement disorders in Brazil, publishing several works on this subject, primarily in Revue Neurologique and L’Encéphale [9].

4.3. Neurology in SA between 1925 and 1934

This period is characterized by discovery and innovation in neurology and neurosciences worldwide. The myelogram, angiogram, electroencephalogram and electromyogram were introduced in a span of less than ten years. In 1928 the first full-time teaching and education unit of medical neurology was developed in the United States at Boston City Hospital. The thirty's were marked by severe global economic hard- ship and progressive dictatorial centralization of power in Italy and Germany [6].

In 1925, Luco Arriagada of Chile created the Hospital del Salvador Neurology Service and in 1931, he began to serve as clinical chief at the Manicomio Nacional (Neuropsychiatric Hospital). In 1932 the Sociedad de Neurología, Psiquiatría y Neurocirugía de Chile was founded. When Arriagada retired, Lea Plaza was made Chair of Neurology at the University of Chile, and Jorge Oyarzun became Chief of Neurology at the Hospital del Salvador [8].

In Brazil, the São Paulo School of Neurology was founded in 1925, and Enjolras Vampré was appointed to take over the Department of Psychiatry and Neurology. Vampré, trained at the Salpêtrière, introduced the fundamentals of French neu- rology to São Paulo and is considered the founder of the São Paulo school of neurology [10,11]. In 1935, the department was divided into psychiatry and neurology. Successive generations of neurologists at the São Paulo school were disciples of Vampré, including Adherbal Tolosa, Paulino Watt Longo, Oswaldo Lange, and Carlos Gama [11].

In Buenos Aires, Mariano Alurralde succeeded Estèvez. Alurralde published studies on neurosyphilis. In this period, the research focus was on anatomy and histopathology [4].

In 1925, Uruguay took an important step with the creation of the Department of Neurological Diseases, approved in the
School of Medicine of Montevideo, with Américo Ricaldtoni as its chairman. In 1927, the Uruguayan government created the Instituto de Neurología de Montevideo, and Ricaldtoni was designated director and Professor of Neurological Disease. This was the first neurological institute in Latin America — preceding the Montreal Neurological Institute by several years. Ricaldtoni published articles in journals from Uruguay and Argentina, wrote about Laundry’s palsy in Archives Générales de Médecine de Paris and bilateral cranial nerve VI and VII palsies in the Revue Neurologique. The creation and subsequent growth of his institute was brought to an end by his death in 1928 [12].

4.4. Neurology in SA between 1935 and 1950

Throughout the World War II period there were neurological publications related to war injuries, aviation medicine and clinical neurophysiology. Perú’s foundation stage began in 1935 with the return from Paris of Oscar Trelles Montes, trained by Jean Lhermitte. He published 35 scientific papers with him. He is considered the “father of neurology of Perú” [13,14]. In 1937, Trelles and Honorio Delgado (renowned psychiatrist) co-founded the Revista de Neuropsiquiatría, and one year later created the Sociedad de Neuropsiquiatría y Medicina Legal of Perú. In 1940, Trelles was conferred professorship in neuropathology at the Universidad Nacional Mayor de San Marcos School of Medicine [13]. By this time, he was also tending to the Refugio de Incursos of Lima (later renamed Hospital Santo Toribio de Mogrovejo) [13,15]. Almost every neurologist in Perú had studied at this hospital in some capacity under Trelles’ 30-year directorship.

The first journal of neurology was the Revista Neurológica de Buenos Aires, created by Dimitri in 1936, which featured reviews, neuropathological descriptions, clinical case studies, notices and summaries of international congresses and lectures. This first Spanish publication in the discipline was very important because few physicians had a good command of non-Spanish languages and even fewer had access to international journals [4].

At the beginning of 1937, after a decade of negligible neurological activity in Uruguay, the specialty was finally advanced when Alejandro Schroeder, trained in Germany, was appointed professor and director of the Institute of Neurology in Montevideo. Since Schroeder took over, the institute, renamed Instituto de Neurología Prof. Dr. Américo Ricaldtoni, has been ranked amongst the top in South America. Two years later, in 1939, the Sociedad de Neurología y Neurocirugía de Montevideo set off with Schroeder as its first president [12].

In Venezuela, the discipline began upon Pedro B. Castro’s return from Paris in 1936, where he had been trained by Profesor Guillain at the Hôpital de la Salpetrière. In 1938, Castro took over as a neurology consultant at Hospital Vargas, where he would remain until 1959. The Archivos Venezolanos de Otorrinolaringología, Oftalmología y Neurología journal circulated in the thirties and forties. In 1940, the Universidad Central de Venezuela created its first Department of Neurology and Psychiatry naming Castro its chairman [16].

In 1939, Alfonso Asenjo Gómez of Chile, trained in the United States by Walter Dandy and in Germany to Toennis, invigorated Chilean neurology and created the Hospital del Salvador’s Service of Neurosurgery. Neurological teaching at the Catholic University School of Medicine began in 1946 under Enrique Ulberall, an Austrian neurologist who moved to Chile during the Second World War [24,25].

In 1941, Vicente Dimitri was designated Professor of Neurology at the University of Buenos Aires. With Dimitri, neurology par excellence started in Argentina. He greatly influenced those who surrounded him, including José Pereyra Káfer [17].

In 1943, Tolosa, Longo, and Lange created the Archivos de Neupropsiquiatría in São Paulo under the direction of Oswaldo Lang. This is the foremost journal of neurosciences in Latin America and its articles are accessible in Index Medicus, WHO, Bireme, Lilacs, and Latindex [18].

In 1944, Deolindo Augusto de Nunes Couto took over as chairman and consolidated Brazilian neurology. In 1946, he founded the Instituto de Neurología da Universidade Federal do Rio de Janeiro, which carried out extensive research in neurology, neurophysiology, and neurosurgery. This institute, later renamed Instituto de Neurología Deolindo Couto da Universidade Federal do Rio de Janeiro, became the 2nd international face of Brazilian neurology [19].

4.5. Neurology in SA after 1950

The discipline in the post-war period is marked by the increasing influence of North American neurologists. In 1951, the Acta Neurológica Latinoamericana was created in Uruguay, a collective Latin American neurological journal that made it easier for Spanish-speaking neurologists to publish their work [12].

In Argentina, Pereyra Káfer became Chairman of the Hospital Ramos Mejía Neurology Service (formerly Hospital San Roque), and then took over as Professor of Neurology at the University of Buenos Aires. In 1952, he founded the Sociedad Neurológica de Buenos Aires, which later became the Sociedad Neurológica Argentina (SNA), a member of the World Federation of Neurology (WFN) [4].

In 1953, the Instituto de Neurocirugía e Investigaciones Cerebrales (Institute of Neurosurgery and Brain Research) of Chile opened, and for the following 34 years it was directed by Asenjo [20].

In 1954, Andrés Rosselli Quijano of Colombia traveled to the Massachusetts General Hospital to study neurology with great neurologists such as Raymon Adams, Maurice Victor and Miller Fisher, and in 1956 he founded a neurology unit annexed to the Neurosurgery Department at Hospital Militar Central de Bogotá. The Sociedad Neurológica de Colombia was formed in 1963 [21,22].

In 1953 the Archivos Venezolanos de Psiquiatría y Neurología journal was created. Neurology and psychiatry...
became independent specialties in 1959 under Pedro B. Castro, the first chairman and founder of the new department of neurology at the Universidad de Venezuela. A group of neurologists met in early 1969 to create the Sociedad Venezolana de Neurología. This society was presided by Pedro B. Castro, Pedro Luis Ponce Dachame, and Celina de Ponce, among others [23].

The quarterly Pan-American Congress was conceived within the framework of the World Federation of Neurology. The first open conference was held in October 1963, in Lima, Peru, and was chaired by J. Oscar Trelles, the country’s Prime Minister [24].

In conclusion, the cultural influence of some countries compared to others usually in the beginning provides benefits. SA’s admiration of European training had led to the early birth of the specialty in some countries such as Argentina, Chile, Uruguay, Brazil and Peru [25]. Lack of access to English-written and indexed publications, and Spanish-written indexed publications not considered in international reviews makes it difficult for South American neurologists to be included in the world scientific community [26]. Then, some of SA’s most accomplished scientists were unknown in international publications because of language barrier. SA’s neurologists describe regional diseases such as Chagas, Cisticercosis, Huntington’s and retrovirus-induced neurological diseases, among others. In recent years, “globalization” has been positive for South American countries, as cooperative projects among them, as well as with first world countries, are now resulting in a more rapid development of South American neurology.

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