

19th century cataract surgery and surgeons in Mexico

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Abstract

Cataract surgery has at least a 3000-year history, but it was not until the 19th century when it was refined to become a routine and successful procedure. Until early this century, the extracapsular technique, introduced by Daviel in 1748, was generally performed in Europe and America, and Mexico was no exception. The brightest and most distinguished Mexican physicians practiced that surgery. Several of their names designate the streets of "Colonia de los Doctores" in Mexico City. For the last quarter of the 19th century, ophthalmology was a defined and independent medical discipline in Mexico. The first Ophthalmologic Society in Latin America was established here in 1893, and in 1898 the oldest current journal of this specialty began its publication in Spanish. Since the 19th century—and perhaps before—cataract surgery in Mexico has been practiced at the same level as in the U.S. and Europe.

Key words: surgery, cataract, history of medicine.

Introduction

Although during the 19th century the consolidation of cataract surgery took place in Mexico and around the world, this discipline had been practiced for thousands of years.

It is said that among the Nahuatl, the teixpati operated on cataract (ixtepella) by the technique of reclining, abatement or cataratopesis, as was done in Europe and Asia. Something similar happened with tzinangaricuperi among the Purepecha, also called Tarascans.¹ Surely during the colonial era the same technique was practiced by the so-called romanticist surgeons. The first written mention of cataract surgery in New Spain dates from 1803, when a notice appeared in the *Medical Gazette* by Joseph Quinones that read: "Cataract, who cures it?" and added that he had successfully operated on 402 cataracts, admitting to having poor results in 29 cases.² It seems that in the first decades of the 19th century, the first surgeon in our country to perform an extracapsular cataract extraction was Dr. Jose Miguel Munoz.² This physician was orphaned as an infant and survived by working in various occupations including as a clerk in an umbrella shop. However, he became a distinguished physician who was

closely associated with Dr. Francisco Javier Balmis, such that he left him in custody of the strains of vaccine he left in Mexico. About Dr Munoz, Guillermo Prieto tells us in his *Memoirs of My Times*: "His reputation made us forget his poor education, his poverty, his ingratitude and his wild habits."³ In 1816 he sent a letter to the viceroy telling him of his presentation to the Royal School of Surgery of a chair designed by him to remove cataracts, which allowed binding the patient (still there was no anesthetic) and in the back had a support system to fix the head by means of a suede band with a metal sheet to be placed over the eye to be operated. He also designed lancets for anterior chamber paracentesis and a blepharostat, among other instruments.⁴

In the already independent Mexico, as in the Western world, the prevailing technique was the extracapsular cataract extraction. This technique was initiated by Daviel in the mid-18th century, and it was gradually gaining more persons adept at the technique and who perfected the procedure throughout the 19th century. This is documented in textbooks of this century and those of the early 20th century.⁵

In the following paragraphs we will highlight some characteristics of Mexican physicians. Most of them have, among others, four factors in common: their interest in ophthalmology, their participation as part of the medical staff at Hospital of St. Andrew, their affiliation with the National Academy of Medicine and their having streets named after them in the Colonia Doctores in the capital of the Mexican Republic.

One of the first Mexican physicians to have a reputation as an ophthalmologist and to have made the specialty his main professional activity was Dr. Jose Maria Vertiz Delgado (1812-1876), an avenue carries his name in Mexico City. For several years he operated the eye clinic founded by Mr. Francisco Fagoaga, brother of the Marques del Valle. It is known that at

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the Hospital for the Poor he performed ~100 cataract operations. Dr. Luis Munoz also excelled in this specialty.^{4,6,7}

A physician of French origin, Carlos Jose Carron du Villards, practiced after the inauguration of the Establishment of Medical Sciences in 1833. Attached to the practice, he advocated the abatement of the cataract, rather than removal.⁴

In attempting to present a certain chronological order and the development that produced these facts for cataract surgery in Mexico at the time, I mention that, in 1822, Dr. José Miguel Muñoz proposed a radical reform in medical education without referring to the specialty. By 1834, Angel Binaghi proposed to the Ministry of Justice and Public Instruction to create a chair of oculist, but the proposal was rejected.⁸

It was not until 1887 that teaching of ophthalmology became official in Mexico when the chair was officially opened. According to some versions, the honor corresponded to Dr. Carmona y Valle.^{2,9} A different version says that Dr. Ricardo Vertiz initiated it, but due to illness it was Dr. Jose Ramos who carried it out.²

Francisco Antonmarchi, Napoleon Bonaparte's last physician, who took his death mask in Santa Elena, practiced in Durango in the year 1837, and it is known that he operated on cataracts.

Several of the most distinguished physicians of the 19th century in Mexico became interested in ophthalmology and it is noted that they performed surgery for cataracts. Among these physicians, we mention the following: Dr. Miguel Francisco Jimenez (1813-1876), the first Mexican president of the National Academy of Medicine and considered the most illustrious of our clinicians of the 19th century who proposed auscultation and percussion as exploratory methods; Dr. Rafael Lucio Najera (1819-1886), a distinguished leprologist who first described the "the stained form of leprosy" and was director of the Hospital de San Lazaro; Dr. Peter Roger Dubos; Dr. Gabriel Villette of Terze; Dr. Rafael Lavista (1839-1900) who occupied the presidency of the National Academy of Medicine four times and was the initiator of neurosurgery in Latin America; Dr. Manuel Andrade Pastor; Dr. Julio Clement who advocated the linear incision for cataract extraction; Dr. Ladislao de la Pascua and Martinez (1815-1891), author of the first writing on leprosy in Mexico and founder of the Hospital de Saint Paul, today known as the Hospital Juarez; and Canon of the Basilica of Guadalupe, Dr. Eduardo Liceaga (1839-1920), musician, professor at the Conservatory of Music, promoter of the creation of the General Hospital of Mexico, and distinguished public health authority who occupied the most relevant posts in national medicine.^{7,10-12}

The trigger for eye problems to be consolidated as a specialty was the field opened by ophthalmoscopy thanks to Helmholtz in 1851. The momentum was so formidable that in 1857 the First International Congress of Ophthalmology was held in Brussels.² Dr. Carmona y Valle vividly expressed his feelings:¹³

"Since the immortal Helmholtz discovered the ophthalmoscope (sic), ophthalmology has made giant strides, and what once was but a small branch of medicine today is a science that deserves all the exclusive action of man ..."

Obviously, the ophthalmoscope, allowing better diagnosis, brought about the development of improved therapeutic measures and more encouraging results. Prognosis for patients with cataract became more successful. The improved surgical success rate led to the diffusion and development of this surgery.

Although there were predecessors of the specialty, and due to the importance of the instrument, the person who first introduced the ophthalmoscope to Mexico is called the "father of Mexican ophthalmology." For some it was Dr. Angel Iglesias y Dominguez, grandson of Josefa Ortiz de Dominguez (1829-1870), Secretary of the Commission of Nobles, who offered the crown of Mexico to Maximilian and Carlotta and who accompanied them on their trip to Mexico. It is said that he introduced the ophthalmoscope in 1856 (Sosa, *Biographies of Distinguished Mexicans*, cited by Agustin Rivera).^{3,9,14}

Others attribute the first ophthalmoscope in Mexico, and therefore the paternity of the National Ophthalmology, to Dr. Manuel Carmona y Valle (1832-1902), who studied with notable ophthalmologists in Europe, especially Paris. He was a prolific author of writings of the specialty. He was the last Director of the School of Medicine in the 19th century. His performance in this position was controversial.^{2-4,7,9,12}

There were far-reaching advances in general surgery and, of course, in ophthalmology in the second half of the century. During the 1970s, von Graefe introduced asepsis and antisepsis to surgery as advocated by Lister.¹⁵ Karl Koller, in 1884, presented to the German Ophthalmological Society the use of cocaine for anesthesia in eye surgery.¹⁶

In the last decades of the present century there were those who dedicated themselves consistently to the specialty. Among them were Ricardo Vertiz Berruecos (1848-1888) whose ability for cataract surgery was known in France where he was allowed to practice and did so with success. He stripped out a capsular flap with Wecker forceps for extracapsular extraction, and he initiated ophthalmology in Mexico as an independent specialty. Jose Maria Bandera (1832 -?) was opposed to the Galezowski technique, as published in the *Gaceta Médica de Mexico* in 1889. We also mention Manuel Romero, Julián Villarreal (1869-1934), Enrique Graue Glennie (1871-1943) and Rafael Silva (1872-1944).^{2-4,12}

Ophthalmology also flourished outside the capital during the late 19th century. In addition to Antonmarchi in Durango, the following persons are noted: Dr. Jose de Jesus Gonzalez in Leon, Guanajuato who was a good musician, a remarkable drawing artist, interested in neuroscience, and achieved worldwide fame; Dr. Manuel Campos in Campeche; and Dr. Miguel Otero Arce in San Luis Potosi, who was also noted for his studies of typhus, identifying the louse as a vector.^{2,4,9,17}

In 1876 the first receptional thesis of the specialty is registered: *Action of atropine in ocular therapeutics*, by Dr A. Gutierrez.²

An important catalyst for the development of cataract surgery in Mexico was the creation of clinics or foundations for the care of patients with eye diseases such as the Fagoaga Clinic, as

mentioned earlier, under the direction of Dr. Jose Maria Vertiz. Among these foundations, Valdivielso stands out, founded in 1876 and lasted and was transformed in 1898 into the current Hospital Nuestra Señora de la Luz.

The first director of the Valdivielso Foundation was Dr. Agustín Andrade (1836-1886) who was born in Paris, grew up in Mexico, studied medicine in France and, after revalidating his studies, practiced in Mexico until his death due to “phlegmonous erysipela,” which he contracted after cutting himself during a hysterectomy. He was president of the National Academy of Medicine five times and led the second embalming of Maximilian, and probably received Don Benito Juarez when he came to see the already deceased emperor.^{2,4,12,18,19}

In the eulogy of Dr. Andrade, Dr. Rafael Lavista said: “... As an ophthalmologist his competence was well recognized and he was among the first to treat glaucoma in Mexico by iridectomy. He was an able cataract surgeon, and was one of the first, if not the first, to use metal channeling of the posterior segment of the eye to the cure of retinal detachment...”

An event of major importance for the development of this specialty was the foundation of the Ophthalmological Society (now the Mexican Society of Ophthalmology) on February 18, 1893 by Drs. Jose Ramos (1858-1909), Lorenzo Chavez and Aparicio (1860-1912), Agustín Chacon (1860-1920), Fernando Lopez (1854-1924), Emilio Montano (1863-1936), Manuel Uribe y Troncoso (1876-1959), Joaquín Vertiz Berruecos (1853-1915) and Federico Abrego (? -1905).

Its first president, Dr. Ramos, had been interested in ophthalmology since he was very young. His dissertation for his medical degree was titled “*Importance of ocular phenomena in the diagnosis of diseases of the nervous system.*” It should be mentioned that he was head of the clinic of Dr. Galezowski in Paris and later received an honorary doctorate degree from Harvard University.^{2,3,4,7,12} The Mexican Society of Ophthalmology is the oldest academy of medical specialists in the country and throughout Latin America.

A consequence of the founding of the Society was the beginning of its own journal in 1898, edited by Drs. Manuel Uribe y Troncoso, Daniel M. Velez, J. Santos Fernandez (Havana, Cuba), and Charles Oliver (Philadelphia, PA), then called *Annals of Ophthalmology* (now published as *Revista Mexicana de Oftalmología*), the oldest existing publication of ophthalmology in Spanish.

The following article appears in the first issue: “A case of expulsive hemorrhage after cataract surgery,”⁴ written by Dr. Fernando Lopez Sanchez Roman (1854-1924) who studied ophthalmology in Paris with Wecker, Lapersonne and Landolt. Upon his return to Mexico he founded the Ophthalmology Clinic at the Military Hospital and became its director. In 1905 he became the first director of the General Hospital of Mexico, performing the first surgery in the new hospital, which was cataract surgery. He introduced the limbal incision (other Mexican

surgeons used the clear cornea incision). He was the first in Mexico to use topical anesthesia with cocaine for eye surgery. He is considered the founder of the Mexican Red Cross.²⁰

In the late 19th century the technique of intracapsular cataract extraction was popularized. After considerable controversy, the technique gained acceptance during the first decades of the 20th century to establish itself as the technique of choice for several decades, to later be replaced towards the end of the century by the return of the extracapsular technique.

In conclusion, from the 19th century Mexican ophthalmology was already an independent, strong specialty, comparable in its development and achievements to that practiced in the U.S. and Europe. Its academic development was manifested by the creation of the Society and the publication of the specialty journal. Even during the first decade of the 20th century a few national meetings of the specialty were held, equivalent to a national congress. Naturally, developments in the technique of cataract surgery continue along with academic development, and the specialty remains at the same level as in more developed countries

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