

REFLECTION PAPER

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Creation and initial development of the Radiology Service of the Faculty of Medicine from the Universidad Nacional de Colombia. One hundred years

Creación y desarrollo inicial del Servicio de Radiología de la Facultad de Medicina de la Universidad Nacional de Colombia. Primer centenario

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| Abstract |

The first X-rays laboratory of Hospital San Juan de Dios in Bogotá was acquired by the board of directors of the Faculty of Medicine and Natural Sciences of Universidad Nacional de Colombia, and was opened in September 1917. This laboratory was created in order to modernize the attention of patients and to promote medical education. Radiology, as a subject, was first introduced to the Medicine program curriculum of this university in 1928. It is important to note that before Gonzalo Gómez Esguerra became the first Colombian director of the laboratory, three radiologist from abroad had already taken this position.

Keywords: History; History of Medicine; Radiology; Colombia (MeSH).

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| Resumen |

El primer laboratorio de rayos X del Hospital San Juan de Dios de Bogotá fue adquirido por las directivas de, para ese entonces, la Facultad de Medicina y Ciencias Naturales de la Universidad Nacional de Colombia y se inauguró en septiembre de 1917; esta adquisición tuvo el propósito de modernizar la atención de los enfermos e impulsar la educación médica. La asignatura de radiología se introdujo por primera vez en el plan de estudios de la carrera de Medicina de esta misma universidad en el año de 1928. Cabe decir que antes de que Gonzalo Esguerra Gómez se convirtiera en el primer director colombiano del laboratorio, tres radiólogos extranjeros habían asumido este cargo.

Palabras clave: Historia; Historia de la Medicina; Radiología; Colombia (DeCS).

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Introduction

September 2017 will mark the hundredth anniversary of the opening of the Radiology Service of Universidad Nacional de Colombia in Hospital San Juan de Dios in Bogotá. This paper aims to describe and analyze the events leading the board of directors of the Faculty of Medicine to acquire the first X-ray equipment installed in Hospital San Juan de Dios, and hire foreign radiologists to operate the equipment and develop teaching activities.

Background

X-rays were discovered on November 8, 1895 by the German physicist Wilhelm Conrad Röntgen at the Institute of Physics of the University of Würzburg, Germany (1). Röntgen received numerous awards for his great discovery, the most important, the first Nobel Prize in Physics, awarded in 1901. The physicist, aware of the important applications of the new rays, decided to donate his discovery to the scientific world community to further progress in their study without patent limitations; this decision allowed a rapid dissemination of knowledge on X-rays and its applications, especially in medicine, throughout the world.

Arrival of X-rays to Colombia

The first record of an X-ray taken in Colombia dates back to 1902, and was taken by Juan Bautista Montoya y Flórez, surgeon from Medellín (2). Montoya y Flórez graduated from the medical school of Universidad Nacional de Colombia in 1892 with the thesis "Medical Electrology"; he traveled to Paris where he repeated his career in medicine. During his stay in Europe, he met the news of the discovery of X-rays and its novel applications in medicine. In 1901,

he decided to acquire an X-ray machine to be set up in Medellín, a task that began with the technical difficulties of the time (3-5).

In June 1912, the Society of Ophthalmology and Otolaryngology of Bogotá published in the journal *Repertorio de Medicina y Cirugía* (Medicine and Surgery Repertoire) the first medical case illustrated with X-ray photographs taken in Bogotá—obtained in Casa de Salud (Health House) owned by Dr. Manuel Peña— about radiographic follow-up of a foreign body (a ring) in the esophagus of a twelve-year-old patient (6).

Beginning of the Radiology Service at the Faculty of Medicine of Universidad Nacional de Colombia

In mid-1907, the Board of Directors of, by then, the Faculty of Natural and Medical Sciences of Universidad Nacional de Colombia, headed by its rector (a position equivalent to a dean today) Luis Felipe Calderón, made a first official call to the National Government for “the installation of a radiography, fluoroscopy and radiotherapy cabinet attached to the clinics of Hospital San Juan de Dios and directed by the professor of clinical dermatology” (7). The board of directors of the faculty, in the official letter sent to the Minister of Public Instruction, considered that “the growing importance of radiology and radiation therapy in diagnosis and treatment of many diseases motivates them to send their request” (7). Although the National Government decided to postpone the approval of such request, the following administrations of the Faculty of Medicine insisted on it (8).

Twenty years after the discovery of X-rays, the rector in charge of the Faculty of Medicine, Roberto Franco, informed the Minister of Public Instruction:

“In order to make the observations of the clinics of Hospital San Juan de Dios more perfect and to use modern methods for the scientific study of surgical-medical conditions, the Board resolved to make the installation of a Cabinet of Radiology and Electrotherapy, and devote the sum of 5 000 pesos gold to these expenses, which were taken to the United States by the rector, Dr. Pompilio Martínez, to acquire the necessary elements for that installation. This implies progress that will translate into real benefit to clinical teaching and effective benefits for poor patients isolated in our hospital” (9).

Thus, Dr. Pompilio Martínez (Figure 1) acquired in 1915 the first X-ray equipment of the faculty, which was installed in Hospital San Juan de Dios.



Figure 1. Dr. Pompilio Martínez, rector of the Faculty of Medicine from 1914 to 1920. Source: Own elaboration based on the data obtained in the study.

Simultaneously, the Council of the Faculty of Medicine requested to the Congress of the Republic the approval of Act 48 of 1916, which ordered:

“Article 1. The establishment, in the Faculty of Medicine of Bogotá, of the Radiology course.

Article 2. The Government will proceed to hire a foreign radiologist to mount the Radiological Cabinet and teach radiology at the Faculty of Medicine. The necessary line item to meet this expenditure is deemed to be included in the budget of expenses (10)”.

With the steps above, and in their eagerness to modernize patient care and promote teaching, the Council incorporated to the Faculty of Medicine a new diagnostic and therapeutic modality.

After facing numerous technical problems installing the equipment sent by the Inrok-Röntgen Manufacturing Co. in Philadelphia, on September 18, 1917 the Cabinet of X-rays was opened in the facilities of the old amphitheaters of Hospital San Juan de Dios in Street 12 with Avenue 10 in Bogotá (Figure 2) (11).

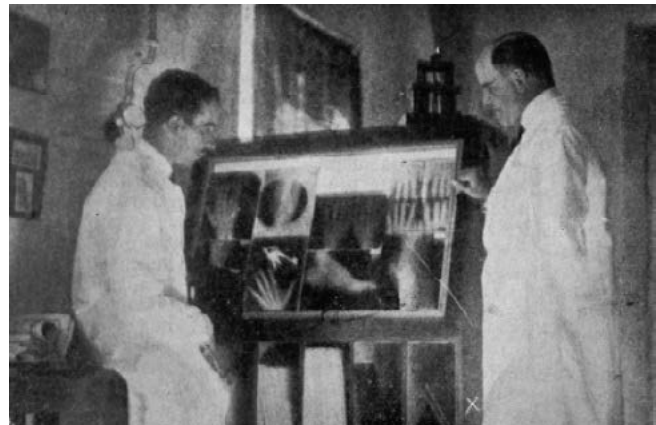


Figure 2. Opening of the first X-ray lab, Hospital San Juan de Dios. On the right, doctor Peer Martin Lund. Source: (18).

The first radiologist hired to manage the cabinet was the Danish Peer Martin Lund from New York, who arrived in the country in early 1917 (12). During his short stay in Colombia, he published three papers in the journal *Repertorio de Medicina y Cirugía*: “X-Ray diagnosis and treatment” (13), “Diagnosis of bone diseases by means of X-ray” (14) and “Value of X-rays in therapy and as diagnostic elements” (15). Due to the technical difficulties encountered, Dr. Lund was declared incompetent to continue managing the operation of the X-ray equipment, and after a few months, his contract was terminated and he left the country, forcing the rector of the faculty, Pompilio Martínez, to suspend the service cabinet the same year of its opening (16).

The forced resignation of the Danish radiologist forced the directors of the faculty to hire a new foreign radiologist and look for a new law with more demanding in terms for hiring (Act 8 of 1919):

“Article 1. The Government shall hire a radiologist to assemble a Radiological Cabinet and to teach radiology at the Faculty of Medicine. Such professor must be skilled in the installation and operation of the radiology and X-ray devices, as well as of the latest developments on the subject (17)”.

By mid-1919, the Faculty Council requested to the Ministry of Education the appointment of the French radiologist André J. Richard, also from New York, to head the radiology cabinet (19). His poor management of the Spanish language forced the recruitment of an interpreter who turned out to be the young bachelor Gonzalo Esguerra Gómez, who excited to observe the work of Richard, became his close collaborator and decided to study medicine at Universidad Nacional. This allowed him, over time, to become an eminent radiologist and to be appointed as the director of the Laboratory of Radiology at Hospital San Juan de Dios and as the first professor of the course, by competition, at the Faculty of Medicine of Universidad Nacional de Colombia (20).

Between 1919 and 1922, Richard demonstrated a remarkable knowledge of the matter that was affected by unjustified absenteeism. In May, 1922, he was commissioned to travel to the United States to purchase items needed for the radiology laboratory; the appliances arrived in December of that year, but Dr. Richard did not return (21).

This paralyzed the activities of the radiology service and forced the rector of the Faculty, Luis Felipe Calderón, to manage and bring from Hamburg a new radiologist, the German Professor Martin Weiser, who arrived in Bogotá by the end of February 1923 and succeeded in reopening the laboratory around mid-year (22).

During the time of his involvement as the director of the Radiology Service at Hospital San Juan de Dios, Weiser judiciously developed assistance work and urged improvements in the physical plant, modernization of X-ray equipment and acquisition of radiotherapy equipment (23); he also organized academic sessions of radiographs reading for students of internal clinic, external clinic and surgical clinic subjects (24).

Dr. Weiser had to transfer the Radiology Department of Hospital San Juan de Dios, located in the city center, to the new hospital facilities in Hortúa, Avenue 10 with Street 1, which was inaugurated on February 7, 1926. This dependence was located in the west wing of the second floor of the building originally intended for hospital administration (25).

Radiographic studies conducted from the beginning were mainly general radiology, digestive tract with barium under fluoroscopic control, excretory urography and cholecystogram. The quality of examinations increased with the introduction of intensifying screens for radiographic/film chassis, Coolidge X-ray tubes and Bucky-Potter grid. He also tried to use common X-ray tubes for radiotherapy but the obtained results were rated as mediocre (26).

The aforementioned Dr. Gonzalo Gómez Esguerra was privileged to spend considerable time of his training as a doctor accompanying and assisting doctors Richard and Weiser, which helped him in his training as a radiologist. In the sixth year of his career, during the temporary absence of Dr. Weiser, he had the opportunity to prepare projections of radiographic material which were presented to his fellow students and professors of Clinical Surgery, Pompilio Martínez and Juan N. Corpas (27). Dr. Weiser remained in the direction of the Radiology Service until 1927, year in which Gonzalo Esguerra Gómez received the degree of doctor of medicine and surgery, after defending the thesis "Radiological signs of chronic appendicitis" (28).

The year 1928 marked the most important period for the early development of Radiology at the Faculty of Medicine, and it was possible to begin with the training of Colombian medical staff in that area. Dr. Gonzalo Esguerra Gómez (Figure 3) was appointed in January of that year as the first director of the Radiology Service of Hospital San Juan de Dios and trained personnel in this laboratory, among them Dr. Carlos Trujillo Venegas, who became director of the service later (29). In addition, the course on Radiology was first

incorporated into the curriculum of the medical career attached to the Surgical Clinic in the sixth year (30).



(Figure 2). Gonzalo Esguerra Gómez. Source: (32).

The appearance of the course on radiology in the Medicine curriculum, together with surgery under the name "Surgical Clinic and Radiology", marked the beginning of a new period in the history of this specialty in the faculty, where it gained recognition and expansion as an independent subject.

Dr. Alfonso Esguerra, brother of Dr. Gonzalo Esguerra, was a fellow of the Laboratory of Radiophysiology at the Radium Institute in Paris and managed to schedule a visit of the French physician and Professor Cladius Regaud to Colombia, and also motivated doctors and politicians to create the Instituto Nacional de Radium (Radium National Institute). The creation of this institution, known today as Instituto Nacional de Cancerología (National Cancer Institute), was approved by Act 81 of 1928 and was opened by President Olaya Herrera in 1934. This center was attached to Universidad Nacional de Colombia (31).

Conclusions

Since the first decade of the twentieth century, the board of directors of the Faculty of Medicine and Natural Sciences of Universidad Nacional de Colombia worked to organize a radiology service with the intention of modernizing patient care and strengthening medical education. Under the administration of Dean Pompilio Martínez, the radiological cabinet was inaugurated on September 18, 1917 in the premises of the old amphitheaters in Hospital San Juan de Dios, when it operated in Avenue 10 with Street 12 in Bogotá.

The Congress decreed Act 48 of 1916 and Act 8 of 1919, which had the purpose of organizing radiology at the Faculty of Medicine. The first law created the course of radiology and both ordered the hiring of a foreign radiologist for service management and radiology teaching.

The history of the Radiology Service at the Faculty of Medicine of Universidad Nacional de Colombia had a first period, between 1907 and 1928, characterized by the incorporation and initial development of a new diagnostic modality in which three foreign radiologists were hired (Lund, Richard y Weiser) for the organization of the radiological cabinet and the teaching of this discipline. Major technical difficulties were faced during the installation and operation of the equipment, while limitations caused by the language of the foreigners arose. Assistance overruled teaching; nonetheless, the training of Colombian personnel in this area, especially of Gonzalo Esguerra Gómez —first Colombian director of the Department of Radiology and future professor of the course— had great significance.

The formal inclusion of the radiology course in the curriculum of Medicine at Universidad Nacional de Colombia was done in 1928, alongside Surgical Clinic. This achievement was possible after a constant work begun in 1907 by the directors of the faculty, which included the organization of a radiology service in Hospital San Juan de Dios in Bogotá, the formulation of national laws, the recruitment of foreign radiologists and the training of Colombian personnel.

Part of the references listed here belong to the historical sources that the author of this paper found for the preparation of his Master's in Education thesis, at Universidad Pedagógica Nacional, entitled: "The teaching of Radiology at the School of Medicine of Universidad Nacional de Colombia 1915-1962". New historical sources and references were added to this paper (33).

Conflict of interests

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