HISTORY OF ONCOLOGY

Léon Bérard (1870-1956): creator of the homonymous anticancer center of Lyon

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Summary

Léon Bérard, the great French surgeon, Professor of Surgery in Lyon Faculty of Medicine, founded by his efforts the famous Anticancer Center of Lyon and pioneered Oncology.

Key words: founder, Léon Bérard, Lyon Anticancer Center, oncology, surgeon

Introduction

The idea of creating specialized services to treat people with cancer belongs to Henri Hartman (1860-1952) [1], who suggested to Justin Godart (1871-1956) [2] to accommodate such a service to his surgical department at the Hôtel Dieu in Paris [3]. To avoid centralization, two other centers would be established in the province.

Hartman thinks of Emile Forgue (1860-1943) [4], Professor of Surgery in Montpellier and of Léon Bérard (1870-1956) (Photo 1) in Lyon. For this project Hartman saves a special place for radiotherapy and finds in the face of Sonia Fabre [5] a willing partner. Sonia, who used to be a student of Marie Curie (1867-1934) [6], knows how to handle radium and accepts to practice the curietherapy while, in order to carry out this practice, she brings all the radium she possesses.

When World War I broke out, Lumière, having no military obligations, participated in the organization of the radiology department in the Hôtel-Dieu. He finances with his own money the purchase of equipment and offers surgeons his abilities as a photographer. Very spontaneously he finds himself offering his services in the departments against cancer, even though for him cancer is an object of serious theoretical speculation that he intends to approach in a different way.

The beginning of the Anticancer Center of Lyon

In Lyon, Bérard cooperates with Dr. Malot who was a radiologist, and with Auguste Lumière (1862-1954) (Photo 2) [7] who has linked his name to photography. The inventor of photography (who, with his brother, made history by inventing the “moving pictures”) is also a passionate biologist and ardent supporter of pharmacodynamics and therapeutics. Lumière was also the director of a clinic and had established a laboratory for his research. This self taught “scholar” (constantly refused to become doctor) cooperated with Bérard in their common fight against tuberculosis [8].

Photo 1. Professor Léon Bérard (1870-1956).
This was the beginning of the future Anticancer Center. Operational conditions and the infrastructure were still very basic: radiotherapy devices that were too weak to allow for deep radiotherapy, some needles with radium and a personnel that was working partially on a voluntary basis.

The Association of Lyon for the Fight Against Cancer was founded before the Anticancer Center, just after a conference held in the medical school on January of 1922 [9]. In Lyon was founded one of the 3 Anticancer Centers for soldiers and was ready to inaugurate a policy for the creation of an Anticancer Center for citizens [10]. Established by a committee that included famous personalities of the city (Édouard Herriot, the Mayor, the President of the Chamber of Commerce, the Prefect, the Chief Education Officer of the University, the President of “Hospices Civils”, the military general, the British consul, a deputy and a senator), the administration council constituted by recognized representatives of the high society of Lyon is led by men such as Lumière, Jean Lepine (1876-1967), and Bérard, who was at that time the Chief Surgeon of the Anticancer Center of soldiers. Although with difficulties, the Association supports financially the hospital and purchases radium for 170 000 francs that then offers to the clinic of Bérard at the Hôtel-Dieu.

The foundation of the Anticancer Center of Lyon

Following the Anticancer Center of Paris, the second Anticancer Center of France in Lyon, was founded in November the 10th 1923 by Bérard and operated under the surgical clinic of the Claude Bernard University [11]. The Anticancer Center was installed at the local hospital allocated in this clinic, i.e. in the Hôtel-Dieu.

Since the installations that preexisted did not allow for big extension works, they used the hospitalization rooms, the operating theater of the clinic, the laboratory of pathologic anatomy of the faculty, whereas a department of radiotherapy was installed in the dome of the Hôtel-Dieu (Photo 3).

This Anticancer Center had 20 beds, provided 2 outpatient consultations per week, and was linked with 20 prefectures. In its first year of operation 300 patients received treatment, and convalescents were taken to the “Big Shelter” where Lumière [12] himself covered the cost of their treatment.

The first donations of radium that reinforced the fight against cancer of the uterus and the oral cavity were realized thanks to the generosity of the Association of Lyon for the Fight Against Cancer that was founded at the same time as the National League for the Fight Against Cancer [13].

Maintenance of the two devices of radiotherapy was provided by the Lumière family. Enforced with the donations in radium, with the devices of conventional radiotherapy and with an operation unit, the Center acquires an even more specialized activity and finally becomes the Anticancer Center of Lyon.

The flow of patients is so big that soon the Anticancer Center of Lyon cannot accommodate them. In June 15 1935, with the support of President Édouard Herriot (1872-1957) (Photo 4), a new Anticancer Cen-
ter is installed in the two floors of the Édouard Herriot Hospital [14]. This Anticancer Center, that at its time was a point of reference, is equipped with devices of radiotherapy of great yield and with a modern surgical department.

Léon Bérard was the first director of the Anticancer Center and kept this position up to his retirement in 1940. In 1941 René Leriche (1879-1955) succeeds him in this place and follows Paul Santy (1887-1970) who was the director from 1942 to 1958 [15]. Marcel Dargent (1908-1972) (Photo 5) who died in July 13 1972 stayed in the position from 1958 to 1972 [16]. Professor Mayer was his successor until 1990.

**Léon Bérard: founder of the Anticancer Center of Lyon**

Bérard was born in February 17 1870, in Morez at Jura, son of a pharmacist. He was of modest origin, very robust, brought up in the College of Rouget-de-Lisle in Lons-le-Saunier, and was as remarkable as his brother Victor, the Hellenist, famous for his works in Iliad and Odyssey.

In classes of humanities Bérard shows a strong will, determination for work, and an open, intelligent mind for all the taught disciplines. He also gained a wide education that would later devote to solve the big problems to which he was committed.

Having become a doctor he went to Lyon and without any difficulty gained all the ranks and in 1914 at the age of 44 he became a Professor of Clinical Surgery (Photo 6), succeeding Professor Mathieu Jaboulay (1860-1913), being the favorite student of Professor Antonin Poncet (1845-1913).

With his scholar spirit, clinical sense and eloquence he gained the interest of his listeners, while many surgeons were honored to be his students.

Following profound studies on various fields, he started the fight against two serious plagues: tuberculosis and cancer.

The fight against cancer was his primary work. From 1923, having at his disposal certain radium tubes given to him by the Society of Lyon that he had founded, and assisted by a group of collaborators such as Malot, Sargnon - a daring specialist -, Lumière, Professors Saturnin Arloing and André Morel and some others, he gradually set up a hospital service in the great dome of the Hôtel-Dieu that was later vigorously developed into the pavilion B of the Édouard Herriot Hospital [17].

When the time for his retirement had arrived, Bérard knew how to divide his time between Lyon where he was engaged with the Society of Surgery and
with charity work, Paris where he attended meetings of various academies, and the south where he supervised the operation of the Helio-marin Hospital. He enjoyed the admiration of all his friends, and when death came he was preparing his speech for the inauguration of the next new Cancer Center.

He sacrificed a big part of his life in the “Hospices Civils” of Lyon, where he was also director from 1930 to 1941.

He held the Chair of Clinical Surgery of the Medical School of Lyon for 26 years. Surgeon since 1901, Bérard was primarily interested in the treatment of thyroid diseases and pulmonary tuberculosis. He was one of the pioneers of thoracic surgery and, in the fight against cancer in France, he practiced thoraco-plasty since 1913 and on 1923 he practiced the first phrenicectomy to treat tuberculosis. Bérard was the first to become interested in people with cancer, and to foresee the benefits that could be gained from the combination of surgery, radiotherapy, or curietherapy. Indefatigable as he was, he never ceased to develop his efforts, by holding informational conferences, and communicating with scientists in congresses where he was announcing his results [18].

The creation of a new Anticancer Center

1923-1935-1950-1958 are the 4 dates that symbolize the on going fight against cancer that took place in Lyon, initiated by Bérard, whose Anticancer Center perpetuated the name and creative will.

In 1940, when Bérard retires, the Anticancer Center of Édouard Herriot Hospital is already overpopulated. From 1944 it becomes evident that the installations are not sufficient, both as far as the installation of new devices (cycotherapy, i.e. use of the bicycle in treatment of disease), and surgical activities are concerned.

Public authorities, primary funds, and the Regional Fund of Social Security, along with some private institutions such as the Farmers’ Mutual Loan, decide to give the necessary funds in order to construct a new building in the zone near Édouard Herriot Hospital in Laennec road. The first stone was placed by Édouard Herriot himself in December 18 1950. This new construction was to allow the accommodation of administrative and examination installations, radium departments, radiotherapy departments, the department of surgery, the laboratories and 300 hospitalization beds. Before the end of the construction works, the use of cobalt proved as necessary as it was in 1956, since the accommodation of patients for ambulatory treatment - then not possible - could now be realized.

The inauguration took place in May 18 1958 and the regional Anticancer Center was renamed Léon Bérard Anticancer Center.

The construction cost of the Center came up to 1,5 million francs and was financed by the State, the Rhône-Alpes Fund of Social Security, certain local communities and regional funds.

Evolution of the Anticancer Centers

From 1922, when different forms of cancer are being distinguished, and this disease is placed second in rank among the different causes of death, authorities are convinced to form multiple disciplines within hospitals, visioning to offer better diagnosis and treatment to people with cancer through collaboration.

A new step was taken in October 1st 1945, when a decree accorded the Anticancer Centers their proper status as Centers of fight against cancer specialized establishments with their mission being the detection, treatment, medical and social surveillance, research and education.

The decree of 1945 conferred to the Anticancer Center of Lyon its administrative autonomy, and placed it under the protection of the prefecture representing the Minister of Health. The University continued to have a presence in the administrative council since the Dean and one Professor of the School were ex-officio members.

Even though they feature a very vast and sophisticated technical range, the Anticancer Centers were not founded to treat large numbers of patients but to fulfill another role. Their operation, based on the existence of multiple disciplines and on collaborative work, enabled them to implement treatment protocols and techniques that could be used by various public or private establishments treating people with cancer.

The “advanced” cancer consultation services, organized within the framework of social hygiene departments, are offered by oncologists of the regional Anticancer Centers who, in cooperation with doctors treating the patients, can give consultation on the treatment or provide help in diagnosis and detection of malignant diseases.

This is the framework within which in 1950, under the supervision of the architects Paul and René Bélémaint, commenced the construction of the new Anticancer Center in Lyon in a separate area, close to the Édouard Herriot Hospital and to the School of Medicine [19].

In 1958, the new Anticancer Center which had 300 beds, with Professor Paul Santy being its director, opens its doors to patients and starts to implement the
most modern treatment methods under the dynamic guidance of Marcel Dargent [20].

In 1958 the Anticancer Center included one laboratory of anatomic pathology that worked in close contact with the operating theater and the laboratories of biophysics, radioactive isotopes, and biochemistry.

Hospitalization was based in nursing units comprised of 21 beds, divided in rooms of 4 beds.

Consultation services were offered by all heads of departments and heads of every specialization. One tradition existed since the foundation of the Anticancer Center that consisted in examining patients and in reaching decisions as a group, especially among the surgeons, radiotherapists, and other specialists.

In the new Anticancer Center, an organization of heads of departments, assistants, and other specialists allowed to perpetuate this beneficial formula of common work: it was the “extended examination”.

Also, “advanced” examinations where organized one or two times a month in departments of the Anticancer Center. The heads of the Anticancer Center’s departments and their colleagues accepted patients that were presented by the doctors and old patients of the Anticancer Center.

The department of surgery, being in operation since 1940 in the pavilion B of the Édouard Herriot Hospital with Dargent as deputy director, assisted by Mayer, intensified and diversified its activities. This department concerned all fields and more particularly the treatment of head and neck cancer, cancers arising within the pelvis, as well as interventions aimed at the function of endocrine glands, and especially the adrenals.

A new team was added to the existing surgical team in order to ensure the function of the 3 operation theaters of the new Anticancer Center and the realization of multiple interventions of all surgical specializations.

The department of medicine stayed closely connected with the surgical departments and those of radiotherapy for all patients receiving treatment.

The radiotherapy department, run by Professor Jean Papillon (1914-1996), radiologist, was equipped with many devices for deep radiotherapy, contact radiotherapy installations, cyclotherapy, and remote cobalt radiation therapy [21].

Also a department of curietherapy was installed in the basement in an operating theater specially equipped with an autonomous sterilization device. Finally, a department of radiodiagnostics, specially equipped with devices of tomography etc., opened in the new Anticancer Center in Laennec road [22].

The influence and reputation of the Anticancer Center did not stop to increase under the management of Dargent.

In 1958, he succeeded his professor Santy in the direction of the Center and some time later became himself Professor of the clinic of oncology.

His tragic death in July 13 1972 at the age of 64 in an accident, brought grief not only in the Anticancer Center but also in the University of Lyon, and to the oncologists around the world.

The efforts of Dargent made the Anticancer Center not only one of the first Anticancer Centers in the fight against cancer but also a model of good function and an example of balance for all different disciplines.

It was Dr. Émile Pommana (1925-2003), the deputy director, to whom 14 years before Dargent had confided the responsibility of the department of medicine, when no effective chemotherapy existed that would assure the temporary operation of the Center until 1974.

In May 24 of that same year, Professor Marcel Mayer, surgeon, was nominated director of the Léon Bérard Anticancer Center. At the same time, he gained the Chair of the Cancer Clinic of the University of Lyon.

Mayer was also a student of Professor Santy, and assistant and then head of examinations of Professor Dargent.

Mayer, having realized the biggest part of his career in the Anticancer Center, he continues the work of his masters and predecessors. With Mayer the Léon Bérard Cancer Center did not cease to confirm its originality and competitiveness in research and treatment of cancer.

This is one of the most important aspects of the Léon Bérard Anticancer Center, the image of which as an “old folk’s home” has fortunately started to disappear.

The emotional and psychological aspect of patients is also taken into consideration. This examination involves many disciplines and the personnel (doctors and nurses) are assisted by a psychologist.

The team of surgeons experiments with the most recent surgical techniques such as mammary reconstruction, intraarterial and intravenous access to certain hepatic metastases, or even with implanting small tanks to administer chemotherapy to patients with non accessible superficial veins.

Also used were laser and microsurgery techniques.

Diagnostic imaging had a considerable expansion in the past decades in the Léon Bérard Anticancer Center with usage of ultrasound, computer-assisted tomography and magnetic resonance imaging.

In the field of radiotherapy, the Léon Bérard Anticancer Center was for a long time the only institution in the region to practice exposure to radiation. For 20 years, this practice has continued thanks to a second
particles’ accelerator installed in the germ-free room.

The Léon Bérard Anticancer Center is very active in the research of basic or clinical research.

In other fields, the Léon Bérard Anticancer Center exploits the considerable support that certain techniques have brought, such as immunoscintigraphy and flow cytometry that enable the tracing of certain tumors, thus helping staging and disease prognosis.

Finally, the Léon Bérard Anticancer Center practices for many years high-dose chemotherapy, using bone marrow autograft with methods that were developed in the laboratory of cryobiology.

In parallel, with the utilization of new therapeutic methods and with the modernization of methods in general, a very important effort was accomplished since 1980 for the renovation and humanization of hospitalization and installations services.

Importance is given in the accommodation conditions that, after 30 years of operation, the Center has modernized to meet the needs of its patients. Rooms with 4 or 5 beds were banned. Today every hospitalized patient occupies one room or a room with 2 beds, enjoying thus more comfort.

The administration of the Léon Bérard Anticancer Center developed better methods of work. The contribution of the computer science in the management and the medical sector were critical in the process of modernizing the Center, which, nowadays, with its dynamism and radiance, meets more that ever before the targets set by its founder.

Conclusion

Bérard and his successors (Santy, Leriche, Dargent, and Mayer) were more than practitioners of surgery and heads of the school. Their work was to create and organize institutions of huge social importance. It is true that they created, managed and maintained the Léon Bérard Anticancer Center in periods that were sometimes difficult.

References


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