

## **A History of Neuroradiology in Lebanon (\*)**

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Soon after the discovery of X-Rays by Roentgen (1895), the first chest X-ray was performed in thirty minutes using rudimentary equipment, in the French School of Medicine in Beirut, under the leadership of the French Maurice Collangettes S.J., chairman of physics (from 1900 to 1925).

At the same period of time, at the American University School of Medicine, were installed X-Ray systems (in 1900 and 1902), under the chairmanship of Arthur Bacon MD, who performed the very first X-ray of a chest, assisted by Nader Kaddoura MD (1907) and Toufic Hajjar MD (1910). From that time and until 1937, Professor Edward St-John Ward took in charge the radiology department, followed by Professor Kingsley Blake (1931-1934) then Albert Oppenheimer (1934-1934) with his assistants, William Shehadé MD and Georges Saleeb MD who became the head for two years.

The French School of radiology has undergone a major development in the year 1925 with the creation of the “Institut de Radiology et de Lutte contre le Cancer” inaugurated by Professor Regaud from the “Institut du Radium” of Paris. Doctor Lemarche was the first director, followed by Professor Chaumet (1934) who started giving courses in radiology and radiotherapy, and then by François Dupré La Tour S.J. (1941) and Professor Joseph Jalet (1943). From 1946 to 1975 the Institute was directed by Professor Paul Ponthus assisted by Afif Berbir MD and Fouad Boustany MD.

During the second half of the XXth century, general radiology developed under the leadership of several radiologists: Fouad Boustany MD, Fathi Homsy MD, Zahi Hakim MD, Jean Haddad MD, Joseph Haddad MD, and Riad Ghorra MD, from the French school, and Rafic Melhem MD, Philippe Issa MD, Naim Atallah MD, and Ghassan Rizk MD at the American University hospital. Georges Comair MD, trained at the Hôpital d’Instruction des Armées du Val de Grâce, in Paris, returned to Beirut and established a radiology department at the military hospital.

Neuroradiology emerged and individualised in the fifties thanks to the interest of neurologists and neurosurgeons. Early in the fifties, Fouad Sabra, Head of Neurology at the American University Hospital (AUH) performed the first pneumoencephalography and myelography with lipiodol (1951). Vertebral and carotid angiography by direct puncture were first performed respectively by Professor Fuad S Haddad, head of Neurosurgery at the AUH (1955) and by Professor Joseph Hajjar, neurologist (1957), followed immediately by Professor Sami Tohmé, Head of Neurology, at Hôtel-Dieu de France (HDF) University hospital, who performed also pneumoencephalography, angiography and myelography and developed EEG (1959). Ventriculography was initiated in 1962 by Professor Gedeon Mohasseb, Head of Neurosurgery and neuroangiography performed by Professor Raymond Chemaly, at HDF, until the installation of a seriograph for global or selective catheterisation using Seldinger procedures developed by Professor Pierre Zalzal, neurologist at HDF who devoted part of its time to neuroradiology and particularly angiography and air myelography until 1983. In the same period of time (1968) Professor Naim Atallah, Head of

Neuroradiology, was performing all neuroradiological invasive techniques at the American University Hospital of Beirut.

With the advent of CT and MR, modern neuroradiology expanded. The first CT scanner (CGR ND 8000) dedicated to head explorations was installed at Hôtel-Dieu de France in 1980 by Professor Sami Tohmé, Head of Neurology department, who performed brain exams, long before the acquisition of a total body scanner (CGR CE 12000) in the Radiology department under the chairmanship of Professor Fouad Boustany. Then came the MR era mostly devoted to neuroimaging and which tended rapidly to replace most neuroradiological exams. Three systems were purchased and installed in the country in 1991-1992, two mid-fields (0.5 T) and one high field (Signa 1.5 T) installed at Hôtel-Dieu de France and running under the direction of Professor Jean Tamraz, neuroradiologist and neurologist, Head of MR and Neuroimaging department since 1992 and Chairman of the department Imaging and Neuroradiology since 2001. The country is at present very highly equipped: 15 mid and 10 high field MR systems, 60 CT scanners, 4 multislice CT, 22 angiography units, 15 nuclear medicine scanners, 8 centers for linear accelerators, a PET scanner, an EBT scanner and a PET-CT scanner.

*(\*) from "A History of Neuroradiology (1895-2002), E.A. Cabanis and MT Iba-Zizen Editors, Paris, 2002, pages 353-354, modified (published during the XVII<sup>th</sup> symposium Neuroradiologicum, Luc Picard, President, Paris, France, August 18-24, 2002).*

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