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History and Development of Neurosurgery in Belgium

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1. Introduction

We cannot talk about neurosurgery in Belgium without giving much credit to great anatomists and neurologists who have paved the path of neurosciences and neurosurgery.

The first of these great scientists was Andreas Vesalius (1514-1564), an anatomist and physician born in Brussels and considered by many historians of science as the greatest anatomist of the Renaissance, maybe the most influential in the history of medicine. He studied medicine at the Université libre de Bruxelles, then at the Catholic University of Leuven and in the Pitié-Salpétrière in Paris. In 1543 he became the first physician to Charles V. His book written in seven volumes on the structure of the human body, (De Humani Corporis Fabrica) written in Latin, was a masterpiece (1). Thoroughly describing every detail of the human anatomy did not satisfy him. He took a step further and created unmatchable quality illustrations.

Andreas Vesalius was an ambitious scientist with a passion for the human body. Unlike his predecessors and contemporaries, he dared to question medical truths handed down for generations and would even dissect the corpses of the executed death row prisoners. It was during his studies at the University of Leuven that he made his first dissections. His goal: to revolutionize the field of medicine through his personal scientific work.

The second influential figure was a neurologist and neuropathologist: Baron Ludo van Bogaert (1897-1989). He was one of the greatest neurologists and neuropathologists of the 20th century. Born in Antwerpen, he got his M.D. at the Université libre de Bruxelles. Director of the(Bunge Institute) then of the (Born-Bunge Foundation) in Antwerpen, he described many cerebral illnesses, hereditary and metabolic diseases, mainly lipidoses, some of which (2) hold his name like (leucoencephalopathy subacute sclerosis). He combined neurological and neuropathological expertise. He created the World Federation of Neurological Societies of which he became the first president. He was convinced on the need to develop neurosurgery separate from general surgery and he helped many neurosurgeons to succeed in that way. Indeed, before the Second World War, neurosurgery was practiced by general surgeons, surely of great skill, being able to remove a stomach or a brain tumor, but there was no sole neurosurgeon.

2. Neurosurgery

The first neurosurgical department, separate from general surgery, was build by Prof. Paul Martin in Brussels in 1948 at the Institut Héger-Bordet from the Université libre de Bruxelles. After graduation from the U.L.B. medical school, he was one of the first Belgian doctors to stay for two years in USA (1920-22) in the surgical departments of Halsted and Cushing. Paul Martin (1891-1968) is to be regarded as the promoter of this speciality in Belgium (3)

Others followed his example and several neurosurgical units were progressively created in university hospitals: Institut Héger-Bordet from Université libre de Bruxelles-ULB(Prof. Paul Martin then Prof. Jean Brihaye), Sint Rafael Hospital from Catholic University of Leuven-KUL(Prof. Derayemacker then Profs. Raymond Vandenbergh, Jan Gybels, Christian Plets, Jan Goffin), Cliniques St Luc from Université Catholique de Louvain-UCL (Prof. Guy Stroobandt), University Ziekenhuis from Ghent-RUG (Prof. Georges Hoffman then Prof Luc Calliauw), Hôpital de Bavière from University of Liège (Prof. Joel Bonnal), University Ziekenhuis from the University of Antwerpen (Prof. Paul Selosse) but also some private hospitals were attractive for neurosurgeons like the Parc Léopold Clinic in Brussels (Dr. Jacques Aschlog). Together, they built the Belgian Society of Neurosurgery, which is flourishing. They also created an interuniversity program of teaching neurosurgery with meetings in all the departments in a rotating program.

Looking back, I must say that Belgian neurosurgery

has been lucky having Paul Martin, the pioneer in neurosurgery, Jean Brihaye the visionary of the EANS, closely helped by Luc Calliauw, and Joel Bonnal, trained in Marseille (France) who put the steps in 1964 on a well-renown university neurosurgical department. He introduced modern neurosurgery in many topics like longitudinal sinus grafting in parasagittal meningiomas (4) or skull base meningiomas (5). Bonnal deserves a special recognition not only for technical successes, but also for high sense of clinical neurosurgery at a time when all new machines were only arriving on the market: CT-Scans, MRIs, Pet-scans (in Belgium there are more that 20 Pet-scans for a population of 11.000.000 inhabitants) with many high-level papers published in peer reviewed journals.

In Belgium, we also have access to stereotactic radiation therapy in a modern way with Linac, Gamma Knife and Cyberknife . Magneto-encephalography (MEG) is also available in Belgium.

The second generation of neurosurgeons following Professor Bonnal's example, took advantage of his vision of the future: "saving life was the past, saving quality of life is the present time". In 1981, Prof. Jacques Brotchi created the department of neurosurgery in Erasme hospital, which was the new academic hospital of the Université libre de Bruxelles. Dr. Jacques Born created the new department in the Centre Hospitalier Regional de la Citadelle in Liège when Prof. Bonnal moved to the new academic center at the University of Liege located in the campus of the Sart Tilman (present head: Prof. Didier Martin).

If in the past the relationship between the divas was not easy, the new generation has decided to work together for the benefit of neurosurgery and the patients. Of course, some isolated divas are still remaining, but very few and I shall avoid speaking of them.

Belgian Neurosurgery has had the honor of the Presidency of several international societies: the EANS in 1979, the French Speaking Society of neurosurgery in 1992 (for the first time in history, a Belgian neurosurgeon was elected against all French candidates), the World Federation of Neurosurgical Societies in 2005 and recently again the French Speaking Society of Neurosurgery in 2012. At present time, there are around 140 neurosurgeons in Belgium doing excellent practice with international recognition.

3. Future

About the future, I am very optimistic. Belgian neurosurgeons are very active, work at a very high level, have close relationship with basic research in neuroscience. For example, we are lucky, in Belgium, having talented neuroscientists like Prof. Pierre Vanderhaeghen and his team, who discovered an intrinsic mechanism of corticogenesis from embryonic stem cells (6). He has been awarded with several international prizes and has close relationships with neurosurgeons.

The young generation recently succeeded in winning the next EANS congress to be held in Brussels in 2018 (President: Prof. Michael Bruneau). The Belgium Neurosurgical Society is very dynamic and has several sections: pediatric, spine, stereotactic. The future is also based on keeping the close collaboration we have with sister disciplines like neuroradiology (Prof. Danielle Balériaux) and endovascular neuroradiology (Prof. Boris Lubicz) to offer patients with a vascular malformation the best treatment available (microsurgery versus embolization), as it is today, without any competition between neurosurgeons and neuroradiologists.

The future of neurosurgery remains in saving lives, saving quality of lives, but with a new challenge: repairing the threats on life. Belgian neurosurgery is ready.

Finally, some words about the new Journal INJ: I am sure it will be an excellent window for letting people know excellence in neurosurgery all around the world.

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