Guido Guglielmi

Guido Guglielmi was born in Rome, Italy in 1948, the son of an urologist. He first studied engineering at the University of Rome, but soon changed to medicine, where the neurosciences became his particular interest. Here he did some of the early clinical investigation related to the use of epidural intracranial pressure measurement devices.

He was a neurosurgery resident at the University of Rome. Guglielmi took a great interest in electronics and engineering, and in 1974 he began studying the concept of electrothrombosis of intracranial aneurysms, which had been described by Mullen et al. This same year, Guido's father suffered an aneurysmal subarachnoid haemorrhage. These two events were to prove pivotal to his future career.

Guglielmi began his neurosurgical practice in 1976 as a junior physician at the University of Rome. Over the next three year he read and thought more about the possibility of using electrothrombosis for aneurysm treatment and, in 1979, he conducted a series of in vivo experiments by using electrothrombosis for obliteration of experimental aneurysms in rabbits.

In 1983, Guglielmi came into contact with Fernando Viñuela, who was then a junior staff physician at the University of Western Ontario in London, Ontario. Over the next several years, a relationship was established between these two young physicians and, when Fernando moved from London to Los Angeles, formal efforts began to collaborate on research efforts directed toward development of new techniques for the treatment of aneurysms. After nearly 5 years of correspondence and occasional transatlantic visits, Dr. Viñuela secured funding that was sufficient for Guido and his family to come for an extended stay in Los Angeles. In January 1989, a research project involving treatment of aneurysms, not with electrothrombosis but with a combination of metallic microspheres and micromagnets delivered using an endovascular approach, was begun at UCLA.

Frustrated by incomplete aneurysm obliteration by use of the small magnets and metallic particles, but encouraged by the amount of thrombus that was generated in the aneurysms with the technique, Guglielmi once again began to explore the possibility of using electrothrombosis as a therapeutic technique. A conversation between Dr. Viñuela and a sales representative from Target Therapeutics (Kevin Riley) concerning engineering assistance with making prototype devices for animal research resulted in Guido's introduction to Ivan Sepetka, a research and development engineer at Target.. This contact and the relationships that followed proved critical to the development of the GDC.

Over the 9 months following Guido's introduction to Ivan, the concept of employing a guidewire mechanism for electrothrombosis of aneurysms rapidly evolved. Soft platinum coils in a variety of sizes were attached to a stainless steel pusher wire so that they could be delivered through a small catheter and positioned into an aneurysm. These could then either be retrieved or detached, as desired. On March 6, Dr. Viñuela used the GDC for the first time in a human, treating a patient with a traumatic cavernous sinus fistula in whom closure of the fistula with detachable balloons had proven to be impossible. An IDE for use of the device in aneurysm treatment was obtained in late 1990 and, in January 1991, the first patient with an aneurysm was treated at UCLA. On September 8, 1995, the Food and Drug Administration approved commercial sale of the GDC. This simple yet elegant device would revolutionize the way that aneurysms were treated.

Guido Guglielmi is currently a neurosurgeon at the University of Rome Medical School [1)]

1)

https://www.whonamedit.com/doctor.cfm/3137.html