The Legacy of Yasargil: the Father of Modern Neurosurgery

Renan Maximilian Lovato¹ • João Luiz Vitorino Araujo^{1,2} •
Vinícius Monteiro de Paula Guirado¹ • José Carlos Esteves Veiga¹

Published online: 16 December 2015
© Association of Surgeons of India 2015

Professor Mahmut Gazi Yasargil was born in Lice, Turkey, on July 6th, 1925, and moved with his family to Ankara at the age of 3 months old [1, 2]. During his childhood, he lost his brother Ihsan having succumbed to abdominal typhus; this unfortunate event inspired him and his brothers to study medicine [1].

In the winter of 1943, he arrived in Naumburg an der Saale, Germany, where he served 6 months as a nurse-helper before beginning his medical studies [1]. Later, he began to study at the Friedrich von Schiller University in Jena but was obliged to leave Jena in April 1945 by the end phase of World War II. Soon, he was accepted at the University of Basel [1, 2], where he had his first contact with microsurgery performing transpalatal exploration of the hypophysis in frogs for a research [1]. On January 4th, 1953, he began his training in neurosurgery in Zürich with Professor Hugo Krayenbül [1, 2], where he studied neuroanatomy and helped to introduce stereotactic and epilepsy procedures.

In October 1965, Dr Yasargil began his training in vascular microsurgery in Burlington, USA [1, 2]. He was 40 years old

and already had 13 years of experience in classic neurosurgical procedures [3]. On December 3rd, 1966, he started working on dog's middle cerebral arteries and in the next day on basilar artery, and he considers this as the birth of microneurosurgery [1, 4]. He also developed the technique for transplantation of the superficial temporal artery to the middle cerebral artery by end-to-side anastomosis [2, 4]. During this time, he also started working with bipolar coagulation, created a few years earlier by Len Malis [1, 3]. In this period, he started to travel around the USA organizing meetings to divulgate and integrate new techniques in microsurgery, which began a series of microneurosurgical courses around the world in the next years [1, 3].

In 1967, he began the microneurosurgery routine in Zürich, performing 103 operations in the first year [1]; the number soon increased, and the outcomes have been published in the six volumes of the book *Microneurosurgery* [2, 3].

At the end of 1972, he was elected as chairman of the department of neurosurgery in Zürich and succeeded his teacher on April 15th, 1973, until his retirement in 1993 [1]. In April 1993, Professor Ossama Al-Mefty invited him to join the neurosurgical department of the University of Arkansas for Medical Sciences in Little Rock [1, 5]. On November 2nd, 1994, Professor Yasargil performed his first operation and there kept working for the next years [3].

In 1999, he was honored as “Man of the Century 1950–2000” by the journal *Neurosurgery* at the Congress of Neurological Surgeons Annual Meeting [2, 6] and The European Association of Neurological Surgeons Medal of Honor [6].

His ingenuity in developing microsurgical techniques for use in cerebrovascular neurosurgery has transformed the outcomes of patients with conditions that

✉ João Luiz Vitorino Araujo
vitorinomed@yahoo.com.br

Renan Maximilian Lovato
renan_lovato@yahoo.com.br

Vinícius Monteiro de Paula Guirado
viguirado@yahoo.com.br

José Carlos Esteves Veiga
jcemveiga@uol.com.br

¹ Discipline of Neurosurgery, Santa Casa de São Paulo Medical School, Cesário Mota Júnior Street, 122, Vila Buarque, 01221-020 São Paulo, SP, Brazil

² Arnaldo Vieira de Carvalho Cancer Institute, São Paulo, Brazil

Fig. 1 Professor Mahmut Gazi Yasargil during the Brazilian Congress of Neurosurgery in 2008

were previously inoperable [2]. He conceived microsurgical instruments, retractors, floating microscope, and aneurysm clips [2, 4]. Every neurosurgical procedure performed today has been affected by his work [4].

In 2015, we celebrate Yasargil's 90th birthday, and nowadays, he works at the Yeditepe University in Istanbul and is still participating in microneurosurgery courses, which he created, held annually in the university [7] (Fig. 1).

References

1. Yaşargil MG (1999) A legacy of microneurosurgery: memoirs, lessons, and axioms. *Neurosurgery* 45(5):1025–1091. doi:10.1097/00006123-199911000-00014
2. Tew JM (1999) M. Gazi Yasargil: neurosurgery's man of the century. *Neurosurgery* 45(5):1010–1014. doi:10.1097/00006123-199911000-00010
3. Yasargil MG (2010) Personal considerations on the history of microneurosurgery; *Journal of Neurosurgery*; Vol. 112 / No. 6 / Pages 1163–1175; published online September 11, 2009; doi: 10.3171/2009.7.091124
4. Flamm ES (1999) Professor M. Gazi Yasargil: an appreciation by a former apprentice. *Neurosurgery* 45(5):1015–1018
5. Al-Mefty O (1999) M. Gazi Yaşargil: the time in Little Rock. *Neurosurgery* 45(5):1019–1024
6. Yasargil MG, M.D. Curriculum Vitae, http://www.uams.edu/update/absolutenm/articlefiles/1681-yasargil_cv.pdf. Accessed 16 Jul 2015
7. Yeditepe Epilepsi SIZ, Yasargil MG, M.D. Curriculum Vitae. <http://www.yeditepepilepsisiz.com/doktorlar/5/>. Accessed 16 Jul 2015