OBITUARY

Edward H. Oldfield, MD, 1947–2017

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AFTER a courageous hard-fought battle with cancer, Edward Hudson Oldfield, MD, died peacefully at his home in Charlottesville, Virginia, surrounded by his wife, Susan, and daughter, Caroline, on September 1, 2017. His passing ended a life committed to furthering the specialty of neurological surgery through improving patient care, scientific advancement, organizational leadership, and the training of neurosurgeon-scientists. While his life ended earlier than it should have, he made critical contributions that have shaped our understanding of neurological disease, enhanced neurosurgical patient care, and advanced surgical technique. Ed left a permanent mark not only on the field at large but also on those individuals who were fortunate enough to train with, know, and/or work with him (Fig. 1).

Biographic Information

Early Years

Ed was born on November 22, 1947, in Mount Sterling, Kentucky, to Ellis and Amanda (née Miller) Oldfield. He was the second of 5 children, with 2 brothers and 2 sisters. Ed's father was a decorated World War II veteran, having been awarded 2 Bronze Stars and a Purple Heart. His father lost his leg above the knee during the war as a result of injuries sustained from German machine gun fire. After returning from the war, Ed's father married Amanda and opened a car dealership in Mt. Sterling. When Ed was 11 years of age, his father died of pancreatic cancer. He was deeply affected by the loss of his father, whose perseverance and motivation he emulated throughout his life. After the death of his father, Ed's mother, who was the first woman in the 5 eastern Kentucky counties to obtain a master's degree, became a schoolteacher to support the family. His mother did not remarry, and she raised Ed and his siblings alone. Because of his mother's influence, Ed developed a strong sense of self-reliance and fairness,

FIG. 1. Edward Hudson Oldfield, MD. © University of Virginia Health System; used with permission. Figure is available in color online only.

as well as a deep intellectual curiosity, unyielding work ethic, and humility that would be defining characteristics throughout his career.

College and Medical School

Ed left Mt. Sterling after high school to attend college

in a work-study program between Georgia Tech and Oak Ridge National Laboratories to study physics. After studying away from home for a semester, Ed became homesick, and he transferred to the University of Kentucky the following year. There he continued his undergraduate studies in physics. It was at the University of Kentucky that he would meet the love of his life, his future wife, Susan. After completing 3 years of college and without graduating, Ed matriculated directly into the University of Kentucky College of Medicine for his medical degree.

Residency Training

After medical school, Ed moved to Nashville for neurosurgical training at Vanderbilt University. There, after his intern year, Ed convinced Susan (née Wachs) to marry him and they were wedded (1974) in her hometown of Lexington. At Vanderbilt, Department Chair Bill Meacham, MD, and Cully Cobb Jr., MD, were his mentors. They were important in providing support for Ed's scientific curiosity and developing his surgical skills. During residency, Ed went to Queen Square in London, England, for a neurology rotation and worked with Valentine Logue, MD. Valentine would also be a mentor and potent influence on Ed's career by honing his observational and examination abilities. These skills would later underlie the development of critical scientific questions derived from the clinic and operating room.

Professional Career

Private Practice

Upon completion of his residency (1980), Ed joined an excellent private practice in Lexington, Kentucky. While he very much enjoyed the clinical activity of the practice and his colleagues, he decided to pursue a more academic path, and after 1 year in private practice, he made the decision to move to the National Institutes of Health (NIH).

National Institutes of Health

Ed started as Senior Staff Fellow in the Surgical Neurology Branch at the NIH (1981). After 5 years, Ed would become the Chief of the Surgical Neurology Branch. He would stay on as Branch Chief and lead the neurosurgical effort at the NIH for the next 21 years. During his tenure, he developed clinical, research, and training programs in epilepsy, congenital malformations, syringomyelia, nervous system neoplasia, drug delivery, and vascular malformations. The strength of these programs was his leadership and their multidisciplinary nature, which incorporated physicians and scientists across the basic, translational, and clinical arenas. Research investigation was always targeted at defined clinical problems. Under his direction, these programs shaped understanding of the studied neurological disorders, as well as improving patient care. It was also while he was at the NIH that Ed and Susan's daughter, Caroline, was born (1989).

University of Virginia

Ed spent the last 10 years of his career at the University of Virginia as the W. Gayle Crutchfield Chair in Neurological Surgery and as a Professor of Neurological

Surgery and Internal Medicine. There he led a multidisciplinary effort in neuroendocrinology and pituitary disorders. While at the University of Virginia, Ed continued to pursue many of the same scientific interests that he started at NIH, as well as developing new research concepts. He remained deeply and critically involved in mentoring residents, fellows, and young faculty members. Over the years, Ed would remark how he never felt like he went to work because he so much enjoyed all facets of his job.

Neurosurgical Contributions

Surgeon

Ed was simply a superb surgeon. He always held himself to the highest technical standard. He believed that surgical excellence was paramount not only to patient care but also to research understanding. To anyone who observed Ed operate, it was immediately obvious that he was a world-class technician. Although he was humble and never belabored his surgical successes, he understood that only through consistently exceptional results could understanding of neurosurgical disease processes be achieved. Based on his results, he received numerous international patient referrals, and neurosurgeons from around the world came to train with him. While an acknowledged expert in several neurosurgical areas, he was a pupil of new biological understanding (derived from his work and that of others) and technology, which he used to continually improve as a surgeon.

Researcher

Ed was uncluttered in his approach to neurosurgical research. He had a constant deep and abiding curiosity that drove his desire to better understand and treat neurological problems. Consistent with Occam's razor ("Entia non sunt multiplicanda praeter necessitate"), he always strove to seek the simplest answer to seemingly complex problems. Most, if not all, of his research ideas and paths originated from observations he had made in the clinic and operating room that led to straightforward hypotheses that could be tested. He had no time for superfluous self-serving approaches to science or surgery. He was, however, always willing to listen to, support, and collaborate around thoughtful new ideas and observations from trainees, fellow neurosurgeons, and nonneurosurgical colleagues.

Although numbers cannot adequately describe Ed's impact on neurosurgical science, they provide insight into his overall body of work. During his career, Ed published over 500 clinical and research manuscripts. He had an h-index of over 100 and his work has been cited over 43,000 times. He made fundamental changes to our understanding and management of congenital malformations, spinal vascular anomalies, drug delivery, Cushing's disease, and nervous system neoplasia (Table 1). The impact of his work is underscored by over 180 publications in the *Journal of Neurosurgery* alone (making him the second most published author in the journal's history) and publications in *New England Journal of Medicine*, *Journal of the American Medical Association*, *Nature*, *Nature Medicine*, *Lancet*, and *Science*. He was visiting professor at over 100 institutions internationally.

TABLE 1. Selected contributions to neurosurgical science

Area of Study	Area of Contribution	References
Spinal vascular malformations	Pathobiology & treatment	6–8,23
Chiari I malformation & syringomyelia	Pathophysiology & treatment	11,12,20
Pituitary disorders, including Cushing disease	IPSS & pseudocapsule resection technique	4,19,21
Drug delivery	Convection-enhanced delivery	2,13,14,16,18
von Hippel-Lindau disease	Biology & treatment	9,15,17
Nervous system gene therapy	First-in-man gene therapy studies for glioblastoma	5,22
Malignant glioma	Biology, natural history, & treatment	1,3,10

IPSS = inferior petrosal sinus sampling.

Ed also contributed to neurosurgical scientific advancement in other ways. He was President of the Society of Neurological Surgeons (SNS) (2008–2009) and Chair of the Scientific Advisory Board for the AANS Neurosurgical Research and Education Foundation (NREF) (2009–2012). He served on the Editorial Boards of the *Journal of Neurosurgery* (1994–2002) and *Neurosurgery* (1992–1994), and he was the Associate Editor of the *Journal of Neurosurgery* (2009–2016). His contributions have been recognized in and outside the field by numerous awards, including the Grass Medal (now the Winn Prize; SNS, 1995), Farber Award (now the Farber-Guha Award; AANS/CNS Section on Tumors, 1999), Cushing Medal (AANS, 2009), Cushing Award for Technical Excellence and Innovation in Neurosurgery (AANS, 2013), Honored Guest of the CNS (2016), Distinguished Service Award (SNS, 2016), Charles B. Wilson Award (AANS/CNS Section on Tumors, 2015), and University of Kentucky Distinguished Alumnus Award (2006).

Mentor

While at the NIH and University of Virginia, Ed trained over 110 residents and fellows. His success as a mentor is underscored by the fact that these trainees continue to advance understanding in the neurosciences. Most went on to successful academic careers in neurosurgery. Nearly 40 of his trainees have become Department Chairs and/or Professors at academic centers around the world. His dedication to their careers, along with friendship and mutual respect, was the basis for lifelong relationships. In the last months of Ed's life, his days were filled with visits from current and former trainees, as well as colleagues from around the world. Despite his failing health, Ed was always the consummate host. Consistent with his commitment to mentees and colleagues, he would discuss ongoing projects and new ideas, as well as spending hours reliving stories, with each of these individuals.

Personal Life

For most of his career and life, Ed lived with Susan and Caroline in their home in Philomont, Virginia, which is in the heart of Virginia horse country. This is where he and Susan raised Caroline and where they entertained a vast and continually growing number of friends and colleagues from around the world. This location allowed Ed direct access to some of his most cherished hobbies,

including fly fishing, hiking, traveling, and bird watching. It was also a quiet retreat where he could spend time with the family dogs, edit manuscripts, and read historical texts. Despite all his accomplishments, Ed's greatest source of pride and joy were Susan and Caroline. He would quietly remark that their love and support were inextricably linked to any success he achieved. They were at the core of his accomplishments, which would not be possible without them.

Conclusions

While the field of neurological surgery has lost a giant, Ed's life and career have left an indelible mark on the specialty and the broader medical profession. His contributions have stood and will continue to stand the test of time. His legacy and impact will endure through his family, the countless patients whose lives he improved, the critical biological principles he discovered, the surgical advances he developed, and those fortunate enough to have trained and/or worked with him.

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Disclosures

The author reports no conflict of interest.