GUEST EDITORIAL

Donald L. Morton, MD . . . A Living Legend in Surgical Oncology

CHARLES M. BALCH, MD*
Johns Hopkins Medical Institutions, Baltimore, Maryland

Over the past half century, Dr. Donald L. Morton has changed our melanoma surgical practice and our oncology management on a global basis (Fig. 1). His pioneering clinical research efforts in the development and clinical application of sentinel node biopsy have transformed the surgical management of many solid tumors, particularly melanoma and breast cancer [1][2]. In these latter two cancers, SLN biopsy has replaced complete lymphadenectomy for staging the regional nodes, thereby reducing healthcare costs in the United States by about $3.5 billion each year. He has also conducted numerous clinical research projects that have shaped our perspective and clinical management of our cancer patients, particularly in the field of melanoma. His pioneering work with intratumoral bacille Calmette–Guerin for melanoma represented the first successful clinical application of immunotherapy against a metastatic human cancer. His work with BCG in melanoma metastatic to the bladder also laid a foundation for the use of intravesical BCG in superficial bladder cancer, which became the first US Food and Drug Administration-approved cancer immunotherapy [3]. He was also one of the pioneers for limb salvage surgery and pulmonary metastasectomy for soft tissue sarcomas [4]. While all of these made advances using the instruments of clinical trials, Dr. Morton is also a translational researcher who has made fundamental discoveries in tumor immunology and immunotherapy that have stimulated an entire field of inquiry.

As you examine his scientific journey that spans a half century from the perspective of a surgical investigator, he has few peers. He has defined his approach as follows: “Our goal as cancer researchers is to make things better. We identify problems with the status quo, then try to discover better ways to do things.” His research has credibility and reproducibility because he rigorously tests his hypotheses using the structure of prospective clinical trials, sophisticated database analyses, and multidisciplinary collaborations. He is an outstanding surgeon as well as an accomplished oncologist (Fig. 2).

His accomplishments are prodigious and are described in more detail elsewhere [5]. I’ll only mention a few in summary:

- Dr. Morton has authored over 1,000 publications and received competitive research funding from National Cancer Institute for more than 38 years.
- He has trained over 100 fellows, of which 80% are in leadership roles in academic institutions or major cancer centers.
- He has an uncanny skill in shaping his ideas and visions into successful federal grants. The journal Science placed him at the top of a list of clinical investigators who received the most grant funding from the National Institutes of Health during 2000 (Science June 15, 2001). (How many surgeons do you know who have two program project grants at a time?)

*Correspondence to: Charles M. Balch, MD, Johns Hopkins Medical Institutions, Cancer Research Building II, 1550 Orleans St. Room 507, Baltimore, MD 21231. E-mail: balchch@jhmi.edu

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Don is a prodigious writer whose publications cover many different fields. The ISI Web of Science (Thomson Reuters) lists 871 of these publications that have been cited almost 30,000 times in the biomedical literature (an average of 34 times per article). More than half of these publications involve the field of melanoma, and these have been cited over 19,000 times. Any of us would be pleased that a publication was cited 50 or 100 times, but Dr Morton has over 60 articles that have been cited over 100 times. Indeed, over the past few years, his collective publications have been cited over 1200 times per year! Examine the diversity of his top 10 “high impact” publications as a lead author or as a co-author, for which 7 of the 10 articles advance the field of melanoma (Table I).

Indeed, in the annals of surgical research, there are very few who have contributed such a wealth of biological and clinical knowledge that Dr. Morton and his dedicated research team have accomplished through the decades, and continue to contribute through international randomized surgical trials, his ongoing research programs, and his trainees.

The story about lymphatic mapping and the sentinel node procedure deserves special mention, for he is the singular pioneer of these techniques that have now been adopted worldwide. His initial studies began in the mid-1970s when he published the first report of cutaneous lymphoscintigraphy for identifying potential bidirectional lymphatic drainage to regional lymph node basins in truncal melanoma [6]. This technique was quickly adopted in nuclear medicine departments. The next issue that he addressed was which of the regional nodes was the “first draining node” or sentinel node within a nodal basin as defined precisely by the cutaneous lymphoscintigram. First through observational clinical studies and then systematically in a cat model [7], he developed and tested the clinical application of the sentinel node technique to improve the staging of melanoma. His first results were presented at the Society of Surgical Oncology meeting in 1990. The manuscript describing this methodology was rejected by several “high-impact journals.” Undaunted, he persisted until the paper was published in the Archives of Surgery in 1992 [1]. It became a classic article with over 2000 citations to date! To his credit, he went on to validate this technique through a series of brilliantly designed clinical trials, first at his own institution, and then with two landmark international studies, the MSLT I and the MSLT II trials [8–10]. The rest is history! Being a man of global vision, he also organized and was the founding President of the International Sentinel Node Society in 1992 [11] and was President of the Society of Surgical Oncology in 1993 (Fig. 3). Recently, he received the prestigious Jacobson Innovation Award from the American College of Surgeons (Fig. 4).

I salute the Journal of Surgical Oncology for allowing this opportunity to honor Dr. Morton with this tribute as part of the Seminars in Surgical Oncology issue on melanoma. He is an inspiration to us all. His prowess as a clinical surgeon has saved the lives of many patients, his research has contributed to our fund of understanding.

**Table I. Top Ten Most Cited Articles Published by Dr. Donald Morton and Colleagues (Source: ISI Web of Science)**

3. Final version of the American Joint Committee on Cancer staging system for cutaneous melanoma, Balch CM et al. Journal of Clinical Oncology, 2001 Times Cited: 1,141
6. IL-4 Down-Regulates IL-1 and TNF Gene-Expression in Human-Monocytes, Essner et al. Journal of Immunology, 1989 Times Cited: 473

Fig. 3. Dr. Morton as President of the Society of Surgical Oncology (1993).

Fig. 4. Dr. Morton with Dr. Thomas Russell and Dr. Charles Balch, when Dr. Morton was recipient of the 2008 Jacobson Innovation Award from the American College of Surgeons.
knowledge that we use every day around the world in our own clinical practice, he has trained a cadre of surgeons and investigators who in turn have become leaders in their field, and he has influenced us all in the field of surgical oncology with his professional standards, strategies, and approaches that we all emulate in our own professional lives. Though he leads a busy professional life, he is also a devoted husband to his wife Lorraine and his family (Fig. 5).

Donald Morton is truly a legend in surgical oncology, an icon as a surgical investigator, a pioneer in melanoma, a valued mentor, an authentic role model, and a cherished friend to many of us around the world.

REFERENCES


Fig. 5. Dr. and Mrs. (Lorraine) Morton.