
However, a special aspect should be mentioned when using this particular technique for the evacuation of hematomas. It has been shown that an acute hemorrhage within an intracranial cavity is not always hyperechogenic on ultrasound and can be mistaken for rinsing liquid. Rebleeding appears as visible movement of small particles within an increasing cavity and can be observed only after several minutes of ultrasound monitoring. It should have been emphasized that, especially when the endoscope has been removed, continuous ultrasound monitoring with knowledge of the aspect of a rehemorrhage would offer more safety for the patient.

Kay Mursch, Prof Dr Med
Zentralklinik, Bad Berka, Germany

References

Disclosures
The author reports no conflict of interest.

TO THE EDITOR: We are grateful to Prof. Mursch for the comments on our paper. We have also noted rebleeding that was initially observed as a low echoic lesion that then changed to a high echoic lesion after a few minutes. We agree that continuous ultrasound monitoring is needed after endoscopic surgery to confirm that there is no rebleeding. We thank Prof. Mursch for pointing out this important issue.

Hirokazu Sadahiro, MD
Yamaguchi University School of Medicine, Yamaguchi, Japan

Bibliometrics
TO THE EDITOR: We read with interest the article by Lozano et al.1 (Lozano CS, Tam J, Kulkarni AV, et al: The academic productivity and impact of the University of Toronto Neurosurgery Program as assessed by manuscripts published and their number of citations. J Neurosurg 123:561–570, September 2015).

The use of bibliometrics, especially variations of the h-index, has received much interest and attention in the neurosurgical literature in recent years. A quick search of the literature on the topic provides references dating back to 1990, in which Davis and Cunningham analyzed the citations of the earliest American neurosurgeons.2 More recently, analyses have looked at comparisons of academic departments (residency and fellowship) in the United States,3,4,7 North America,5 and Great Britain and Ireland;6 gender;8 funding;9 and fellowship- versus non–fellowship-trained neurosurgeons.1

These publications establish bibliometric benchmarks for groups of researchers, which can then be used to conduct comparative analyses, both now and in the future. To our knowledge, no recent paper has focused solely on a single institution as does the recent paper by Lozano et al.1 Using our methodology, they compared their program’s publications, citations, and h(5)-index (as well as other indices) with those of other institutions in our paper and conclude that “it is therefore likely that the neurosurgery...
program at the University of Toronto ranks first in the world in academic output as measured here.”

The University of Toronto Neurosurgery Program is blessed with many high-achieving neurosurgeons, and their contributions to our field are well recognized. However, we feel the authors missed a clear opportunity to provide a detailed bibliometric analysis of all 14 Canadian neurosurgical programs, which could have served as a natural complement to our analysis of 103 American programs.

The authors do provide the reader with some insight on how their program is structured in order to achieve their high academic output. Programs such as University of Toronto and University of California, San Francisco, undoubtedly have a well-developed culture and environment that support and place high expectations on research. The dissemination of research through publications that results from “chatter” among other researchers—and ultimately the citations that these publications can generate—is the goal of such a culture. Further details of the University of Toronto’s efforts to build and sustain this environment would have been valuable for the reader. Exactly how does Toronto engage their residents and faculty in research? Is there an annual research requirement, and if so, how is it monitored and enforced? Do they provide protected research time? How do faculty balance research with clinical duties? Is there a financial incentive or reward for publishing beyond academic promotion?

We again congratulate the University of Toronto on their remarkable past academic achievements and look forward to their future contributions.

References


Disclosures

The authors report no conflict of interest.

Response

We thank Dr. Klimo and colleagues for their questions and comments on our work. They have asked 2 questions: 1) Why didn’t we include a bibliometric analysis of all 14 Canadian neurosurgical programs? 2) Can we provide some insight into how the Toronto program is structured to achieve high academic output?

As it relates to the first question, our intent was to document and validate the academic productivity of our own program. Bibliometric analyses, particularly third party ones, are often plagued by inaccuracies. For example, many publications are missed due to variations in spelling, misattributions, and omissions. On the other hand, other publications are inappropriately added because of the ambiguity and similarity in an author’s last name. We wanted to produce a data set for our program that could be verified and be as accurate as possible. Our own feeling is that each center should compile and report its own appraisal of its productivity. That would not only serve as a measure of where it stands in the neurosurgical community, but would also be more likely to be accurate and validated and less likely to be contested than one produced by an outside party.

The second question relates to what is our “secret sauce” in reaching this level of academic productivity. We do not have direct cause and effect data, and this question can only be answered with speculation. First and foremost is our clearly defined objective that values research from our residents and faculty. To execute this vision, we preferentially recruit residents who show strong promise in the research realm and target the recruitment of faculty who have successful and sustained research as a major component of their career.

Second, we have created an infrastructure that encourages and supports research. Our residents’ research rotations are a fundamental component incorporated within the residency program in their PGY4. We have a longstanding Surgeon-Scientist Training Program at the University of Toronto that guarantees the full salary of our residents for multiple years while they are conducting their postdoctoral research, which can be up to 5 years. Removing the uncertainty of salary support is, we feel, a major enabler for our residents to pursue research.