Can J Anesth/J Can Anesth (2018) 65:225–226
DOI 10.1007/s12630-017-1011-0

CORRESPONDENCE

Anesthesiologists' perception of perioperative stroke risk during non-neurologic and non-cardiac surgery

Darreul Sewell, MBChB · Adrian W. Gelb, MBChB · Lingzhong Meng, MD · Jason Chui, MBChB · Alana M. Flexman, MD, FRCPC

Received: 4 September 2017 / Accepted: 3 November 2017 / Published online: 17 November 2017

To the Editor,

Perioperative stroke is considered a focal or global neurologic deficit of cerebrovascular cause lasting beyond 24 hr and occurring within 30 days of surgery.[1] The consequences are devastating, with an eight-fold increase in the mortality rate of those suffering this complication.[2] Although a consensus statement on the care of those at risk of perioperative stroke was recently published by the Society of Neuroscience in Anesthesiology and Critical Care (SNACC),[3] the practices and perceptions of Canadian anesthesiologists regarding perioperative stroke following non-cardiac and non-neurologic surgery are unknown.

Electronic supplementary material The online version of this article (https://doi.org/10.1007/s12630-017-1011-0) contains supplementary material, which is available to authorized users.

D. Sewell, MBChB
Department of Neuroanesthesia, National Hospital of Neurology and Neurosurgery, London, UK

A. W. Gelb, MBChB
Department of Anesthesia and Perioperative Care, University of California San Francisco, San Francisco, CA, USA

L. Meng, MD
Department of Anesthesiology, Yale University School of Medicine, New Haven, CT, USA

J. Chui, MBChB
Department of Anesthesia and Perioperative Medicine, London Health Sciences Centre, University of Western Ontario, London, ON, Canada

A. M. Flexman, MD, FRCPC (✉)
Department of Anesthesiology, Pharmacology and Therapeutics, University of British Columbia, Vancouver, BC, Canada
e-mail: alana.flexman@vch.ca

After approval was obtained from the University of British Columbia Behavioural Research Ethics Board (H15-00808), a cross-sectional web-based survey (Simple Survey, www.simplesurvey.com; available as Electronic Supplemental Material) was administered to active members of the Canadian Anesthesiologists' Society (n = 1,697). After pilot testing, the survey was emailed on October 27, 2015, with a reminder on November 10, 2015. The survey defined perioperative stroke as "brain infarction of ischemic or hemorrhagic etiology that occurs during surgery or within 30 days after surgery."[3] Respondents were queried about their demographics, training, practice setting, and the frequency of discussing perioperative stroke risk with the patient. In addition, respondents were asked to estimate overall risk, etiology, and sequelae of perioperative stroke as well as their confidence in providing optimal care to high-risk patients.

In all, 228 (13.4%) anesthesiologists responded to the survey, and 217 (13%) completed it. The responses are summarized in the Table. Most of the respondents were men (n = 161, 72%), were less than 55 yr of age (n = 123, 54%), had spent 15 or more years in practice (n = 143, 63%), and were in academic practice (n = 150, 66%). A sizeable minority (n = 99, 44%) had no post-fellowship training. Although 83% (n = 180) agreed that discussing the risk of perioperative stroke with high-risk patients is important, only 46% (n = 99) routinely do so. In contrast, only 21% (n = 46) of respondents believed it is important to discuss the risk of perioperiative stroke with low/average-risk patients.

Among the respondents, 46% (n = 99) correctly identified the overall incidence of perioperative stroke (0.1%).[2] Only 26% (n = 57) correctly identified the most common etiology of perioperative stroke (thrombosis),[1] whereas 39% (n = 84) and 34% (n = 73) believed that

Table Summary of survey responses about risk counselling, patient behaviour, and anesthesiologists' confidence

Question	Never	Rarely	Occasionally	Frequently	Always
How often do you discuss the risk of perioperative stroke with high-risk patients?	14 (6)	37 (17)	67 (31)	60 (28)	39 (18)
How often do you discuss the risk of perioperative stroke with low/average-risk patients?	83 (38)	86 (40)	36 (17)	9 (4)	3 (1)
Patients ask me questions about the risk of perioperative stroke during preoperative assessment.	102 (47)	91 (42)	22 (10)	2 (1)	0 (0)
	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
I am confident I can provide optimal care to high-risk patients.	3 (1)	11 (5)	55 (25)	118 (54)	30 (14)

All results presented as the number (%).

hypotension and emboli, respectively, were responsible. Although studies have reported mortality rates of 26–87% following perioperative stroke,[1] most respondents, 64% (n = 139), believed the risk of dying after stroke was rare (0-5%) or uncommon (5-25%). Despite these knowledge gaps, 68% (n = 148) were confident about caring for high-risk patients.

Our survey of anesthesiologists highlights several common knowledge gaps regarding the subject of perioperative stroke. Although previous studies have demonstrated an association between hypotension and stroke, the clinical significance of these findings remains debatable.[4] In contrast a recent review[1] identified cerebrovascular thrombosis as the leading cause of most strokes after non-cardiac and non-neurologic surgery.

Our study results must be interpreted in the context of its limitations. Our low survey response rate may not be representative of the entire anesthesiologist population of Canada or other countries. Also, self-reports on practice patterns and level of confidence may not accurately represent actual practice or competence.

Current SNACC guidelines recommend screening for risk factors and communicating the risk to the patient.[3] Evidence suggests that patients wish to discuss uncommon complications, particularly those with serious consequences.[5] Our results indicate fewer than half of Canadian anesthesiologists discuss the risks of stroke with high-risk patients. Proactive discussion by anesthesiologists is particularly important given that our respondents indicated that surgical patients rarely ask questions about stroke. Our findings indicate an opportunity to educate both patients and providers about perioperative stroke.

Acknowledgement The study investigators thank the Canadian Anesthesiologists' Society for facilitating this study.

Conflicts of interest None declared.

Editorial Responsibility This submission was handled by Dr. Gregory L. Bryson, Deputy Editor-in-Chief, *Canadian Journal of Anesthesia.*

Source of funding No funding.

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