Can J Anesth/J Can Anesth (2020) 67:379–380
https://doi.org/10.1007/s12630-019-01520-7

CORRESPONDENCE

Practice advisory on the bleeding risks for peripheral nerve and interfascial blockade: *rooted in evidence*

Ban C. H. Tsui, MD, MSc · Kyle Kirkham, MD · M. Kwesi Kwofie, MD · De Q. Tran, MD · Patrick Wong, MD · Ki Jinn Chin, MD · Rakesh V. Sondekoppam, MD

Received: 7 October 2019 / Revised: 7 October 2019 / Accepted: 7 October 2019 / Published online: 18 November 2019

To the Editor,

We feel privileged to have our work[1] editorialized by our esteemed colleagues, Drs. Horlocker, Neal, and Kopp.[2] Although we concur with many of their excellent points, some clarification may be necessary.

The risk of bleeding remains an important consideration when selecting a regional anesthesia technique, especially in patients with atypical body habitus or altered coagulation. The American Society of Regional Anesthesia (ASRA) guidelines[3,4] are a valuable tool to assess the appropriateness of regional procedures (most notably neuraxial blocks) in the setting of anticoagulation. While comprehensive in many areas, the latest ASRA guidelines for regional anesthesia[3] contain only a single paragraph addressing the stratification of bleeding risk for non-neuraxial regional anesthesia.[3] This gap may leave clinicians to rely on their subjective judgement when making important executive decisions. Consequently, the purpose of our advisory was to provide additional information to assist practitioners in reaching concrete, individualized, and patient-centred management decisions. As stated in our paper, "*our objective was to produce an evidence-based consensus advisory that classifies bleeding risk. This advisory is intended to facilitate clinical decision-making in conjunction with national or local guidelines and to guide consideration for appropriate alterations to anticoagulation regimens before regional anesthesia procedures*." By taking it out of context and quoting only of the last phrase "*appropriate alterations to anticoagulation regimens*" from our objective, we fear that the editorial may have misinterpreted "*the intent of the advisory*".[2] Contrary to their misgivings, we wish to reiterate that the goal of the advisory is neither to advocate changes related to anticoagulation regimens nor to supplant the ASRA guidelines. Instead, the advisory simply aims to complement the latter.

Our approach to the assessment of bleeding risk was based on the "*order of priority—literature evidence, a bleeding risk score, and consensus opinion*". Specifically, we placed most weight on reviewing the available literature when generating our recommendations. The systematic framework of the bleeding risk score[1] served primarily as a platform to initiate discussion points. To illustrate, we initially had a consensus that "*femoral nerve blocks were of low risk*", which was similar to the editorial's deliberation on the minimal rate of vascular complication noted following vascular puncture with large bore catheters in interventional cardiology suites. But in fact, a risk of 0.54% with serious vascular complications requiring surgery has been reported in a recent study of 23,870

This letter is accompanied by a reply. Please see Can J Anesth 2020; 67: this issue.

B. C. H. Tsui, MD, MSc (✉)
Department of Anesthesiology, Stanford University, Stanford, CA, USA
e-mail: bantsui@stanford.edu

K. Kirkham, MD, K. J. Chin, MD
University of Toronto, Toronto, ON, Canada

M. K. Kwofie, MD
Dalhousie University, Halifax, NS, Canada

D. Q. Tran, MD
McGill University, Montreal, QC, Canada

P. Wong, MD
University of Ottawa, Ottawa, ON, Canada

R. V. Sondekoppam, MD
University of Iowa, Iowa City, IA, USA

coronary angiographies.[5] Moreover, it may be risky to draw such parallels, as cardiology suites routinely implement meticulous post-procedural observation, prolonged compression, and immobilization after such procedures. In contrast, risk mitigation strategies are not regularly employed after peripheral nerve block, even in the event of inadvertent vascular trauma. Nevertheless, after reviewing the anesthesia literature, it became clear that this block has been also associated with significant complications such as retroperitoneal bleeding. Thus, we rooted our comments in the literature, erred on the side of caution, and graded the block as "intermediate risk".

As the field of surgery advances, so does regional anesthesia. Many peripheral nerve blocks (e.g., brachial plexus blocks) are now no longer the "*rare exception*"[2] but rather routinely used as the sole technique to provide surgical anesthesia. Hence, we believe that our advisory constitutes a valuable addition to existing guidelines and that clinical decisions can be strengthened by a deeper understanding of the existing literature on hematologic complications. Nevertheless, we concede that as new evidence emerges, our advisory will need to be revisited in the future to confirm and refine the stratification of bleeding risks.

Conflicts of interest None.

Funding statement None.

Editorial responsibility This submission was handled by Dr. Hilary P. Grocott, Editor-in-Chief, *Canadian Journal of Anesthesia.*

References

1. *Tsui BC*, *Kirkham K*, *Kwofie MK*, *et al*. Practice advisory on the bleeding risks for peripheral nerve and interfascial plane blockade: evidence review and expert consensus. Can J Anesth 2019; 66: 1356-84.
2. *Horlocker TT*, *Neal JM*, *Kopp SL*. Practice advisory on the bleeding risks for peripheral nerve and interfascial blockade: going out on a limb. Can J Anesth 2019; 66: 1281-5.
3. *Horlocker TT, Vandermeuelen E, Kopp SL, Gogarten W, Leffert LR, Benzon HT*. Regional Anesthesia in the Patient Receiving Antithrombotic or Thrombolytic Therapy: American Society of Regional Anesthesia and Pain Medicine Evidence-Based Guidelines (Fourth Edition). Reg Anesth Pain Med 2018; 43: 263-309.
4. *Narouze S*, *Benzon HT*, *Provenzano D*, *et al*. Interventional Spine and Pain Procedures in Patients on Antiplatelet and Anticoagulant Medications (Second Edition): Guidelines From the American Society of Regional Anesthesia and Pain Medicine, the European Society of Regional Anaesthesia and Pain Therapy, the American Academy of Pain Medicine, the International Neuromodulation Society, the North American Neuromodulation Society, and the World Institute of Pain. Reg Anesth Pain Med 2018; 43: 225-62.
5. *Dencker D*, *Pedersen F*, *Engstrøm T*, *et al*. Major femoral vascular access complications after coronary diagnostic and interventional procedures: a Danish register study. Int J Cardiol 2016; 202: 604-8.