Measurement of Patient Outcomes Important

To the Editor:

It was welcoming to read that Bomberg *et al.*¹ found a low incidence of catheter-related infections in their study published in the September 2016 issue of Anesthesiology. I was intrigued to read that single-dose antibiotic prophylaxis for surgical-site infection was associated with a significant reduction in catheter-related infections, but this gives rise to more questions.

Other studies^{2,3} have found a low morbidity resulting from catheter-related infections, so is the risk reduction found in this study clinically relevant? Does it justify the potential implications of cost and antimicrobial resistance? The authors state that they have insufficient information on the severity of the infections (whether they required antibiotic therapy or surgical intervention), cost implications, and length of hospital stay, as well as any impact on longer term outcome (functional well-being, morbidity, and mortality). I wonder if the authors have considered data linkage to national death registries or reviewing the clinical notes of a subset of their study population to answer some of these questions? These outcomes should be considered by clinicians and researchers designing databases and conducting future studies in this area.

There is increasing use of perineural catheters for continuous or intermittent nerve blockade outside of the perioperative period, where administration of antibiotic prophylaxis is not routine. Without a clear improvement in patient outcomes, it is difficult for me to justify a change in my practice. Further large prospective studies in this area are required.

Competing Interests

The author declares no competing interests.

Dermot G. McGuckin, M.B.B.Ch., B.A.O., UCL/UCLH Surgical Outcomes Research Centre, Department of Anaesthesia and Perioperative Medicine, University College Hospital, London, United Kingdom. d.mcguckin@ucl.ac.uk

References

- Bomberg H, Krotten D, Kubulus C, Wagenpfeil S, Kessler P, Steinfeldt T, Standl T, Gottschalk A, Stork J, Meissner W, Birnbaum J, Koch T, Sessler DI, Volk T, Raddatz A: Singledose antibiotic prophylaxis in regional anesthesia: A retrospective registry analysis. ANESTHESIOLOGY 2016; 125:505–15
- Nicolotti D, Iotti E, Fanelli G, Compagnone C: Perineural catheter infection: A systematic review of the literature. J Clin Anesth 2016; 35:123–8
- Cook TM, Counsell D, Wildsmith JA; Royal College of Anaesthetists Third National Audit Project: Major

complications of central neuraxial block: Report on the Third National Audit Project of the Royal College of Anaesthetists. Br J Anaesth 2009; 102:179–90

(Accepted for publication March 13, 2017.)

In Reply:

We would like to thank Dr McGuckin for his valuable comment on our study. Indeed, in his mentioned review, the authors state: "No studies evaluated the effectiveness of antibiotic prophylaxis before PNC [perineural catheter] placement, as it is usually performed between nerve block and the start of surgery." This gap is filled now.

We fully agree that not every patient should receive an antibiotic prophylaxis; however, practitioners might consider it in patients in whom risk factors are prominent.^{3,4} In subgroups at particular risk the benefit of preventing catheter-related infections with all implicated morbidity might outweigh the costs and the potential risk of promoting antimicrobial resistances generated by single-dose antibiotic prophylaxis. We also fully agree that data linkage with longer term outcome parameters is necessary.

Competing Interests

The authors declare no competing interests.

Thomas Volk, M.D., Alexander Raddatz, M.D., Hagen Bomberg, M.D. Saarland University Medical Center and Saarland University Faculty of Medicine, Homburg, Germany (T.V.). thomas.volk@uks.eu

References

- Bomberg H, Krotten D, Kubulus C, Wagenpfeil S, Kessler P, Steinfeldt T, Standl T, Gottschalk A, Stork J, Meissner W, Birnbaum J, Koch T, Sessler DI, Volk T, Raddatz A: Single-dose antibiotic prophylaxis in regional anesthesia: A retrospective registry analysis. Anesthesiology 2016; 125:505-15
- Nicolotti D, Iotti E, Fanelli G, Compagnone C: Perineural catheter infection: A systematic review of the literature. J Clin Anesth 2016; 35:123–8
- Bomberg H, Albert N, Schmitt K, Gräber S, Kessler P, Steinfeldt T, Hering W, Gottschalk A, Standl T, Stork J, Meißner W, Teßmann R, Geiger P, Koch T, Spies CD, Volk T, Kubulus C: Obesity in regional anesthesia—a risk factor for peripheral catheter-related infections. Acta Anaesthesiol Scand 2015; 59:1038–48
- Bomberg H, Kubulus C, List F, Albert N, Schmitt K, Gräber S, Kessler P, Steinfeldt T, Standl T, Gottschalk A, Wirtz SP, Burgard G, Geiger P, Spies CD, Volk T; German Network for Regional Anaesthesia Investigators: Diabetes: A risk factor for catheter-associated infections. Reg Anesth Pain Med 2015; 40:16–21

(Accepted for publication March 13, 2017.)

Copyright © 2017, the American Society of Anesthesiologists, Inc. Wolters Kluwer Health, Inc. All Rights Reserved. Anesthesiology 2017: 126:1202-4