

LETTER

Open Access



With the current COVID pandemic: should we use single-use flexible bronchoscopes instead of conventional bronchoscopes?

Patrick M. Honore^{*}, Aude Mugisha, Luc Kugener, Sebastien Redant, Rachid Attou, Andrea Gallerani and David De Bels

We would like to describe the numerous advantages of single-use bronchoscopes over conventional bronchoscopes especially during the COVID pandemic. Recently, Zaidi et al. did a comparative study between single-use and conventional bronchoscopes for bronchoalveolar lavage (BAL) [1]. They concluded that with single-use bronchoscopes, they achieved a larger BAL volume yield than conventional bronchoscopes, with comparable cell yield and viability [1]. Better volume yields may potentially reduce post-procedure side effects such as pleuritic chest pain and cough. With single-use devices, the risk of cross infection is eliminated, providing reassurance to researchers and participants [2]. This single-use flexible bronchoscope can be reusable for the same patient and should be stored in his isolate room [2]. Reduced maintenance requirements can be cost effective [3]. In addition, single-use flexible bronchoscopes have been evaluated in the critical care setting with favorable results for BAL, percutaneous tracheostomy, intubation, and suction [4]. Regarding the important question of cost, a recent study suggests benefits from the use of single-use flexible bronchoscopes in terms of cost effectiveness, cross-contamination, and resource utilization [3]. Single-use flexible bronchoscopes could be very useful in the setting of the current coronavirus pandemic. We have already started using them.

Abbreviations

BAL: Bronchoalveolar lavage; ICU: Intensive care unit

Acknowledgements

We would like to thank Dr. Melissa Jackson for the critical review of the manuscript.

* Correspondence: Patrick.Honore@CHU-Brugmann.be

ICU Department, Centre Hospitalier Universitaire Brugmann-Brugmann University Hospital, Place Van Gehuchtenplein, 4, 1020 Brussels, Belgium

Authors' contributions

PMH, SR, and DDB designed the paper. All authors participated in drafting and reviewing. All authors read and approved the final version of the manuscript.

Funding

None.

Availability of data and materials

Not applicable.

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Competing interests

The authors declare to have no competing interests.

Received: 30 April 2020 Accepted: 11 May 2020

Published online: 18 May 2020

References

1. Zaidi SR, Collins AM, Mitsi E, Reiné J, Davies K, Wright AD, et al. Single use and conventional bronchoscopes for Broncho alveolar lavage (BAL) in research: a comparative study (NCT 02515591). *BMC Pulm Med.* 2017;17(1): 83. <https://doi.org/10.1186/s12890-017-0421-7>.
2. Kovaleva J, Peters FTM, van der Mei HC, Degener JE. Transmission of infection by flexible gastrointestinal endoscopy and bronchoscopy. *Clin Microbiol Rev.* 2013;26:231–54.
3. Mouritsen JM, Ehlers L, Kovaleva J, Ahmad I, El-Boghdadly K. A systematic review and cost effectiveness analysis of reusable vs. single-use flexible bronchoscopes. *Anaesthesia.* 2020;75(4):529–40. <https://doi.org/10.1111/anae.14891> Epub 2019 Nov 8.
4. Mankikian J, Ehrmann S, Guilleminault L, Le Fol T, Barc C, Ferrandiere M, et al. An evaluation of a new single-use flexible bronchoscope with a large suction channel: reliability of bronchoalveolar lavage in ventilated piglets and initial clinical experience. *Anaesthesia.* 2014;69(7):701–6.

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.



© The Author(s). 2020 **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated in a credit line to the data.