CLINICAL PRACTICE GUIDELINE

Anaesthesiologica

ISTH guidelines for antithrombotic treatment in COVID-19: Endorsement by the Scandinavian Society of Anaesthesiology and Intensive Care Medicine

Michelle S. Chew ¹	Klaus T. Olkkola ²	Maija-Liisa Kalliomäki ³
Marius Rehn ⁴	Martin Ingi Sigurðsson ^{5,6}	Morten Hylander Møller ^{7,8} 💿

¹Department of Anaesthesia and Intensive Care, Biomedical and Clinical Sciences. Linköping University, Linköping, Sweden

²Department of Anaesthesiology, Intensive Care and Pain Medicine, University of Helsinki and Helsinki University Hospital, Helsinki, Finland

³Department of Anaesthesia, Tampere University Hospital, Tampere, Finland

⁴Institute of Clinical Medicine, University of Oslo, Oslo, Norway

⁵Division of Anesthesia and Intensive Care Medicine, Landspitali-The National University Hospital of Iceland, Reykjavik, Iceland

⁶Faculty of Medicine, University of Iceland, Reykjavik, Iceland

⁷Department of Intensive Care, Copenhagen University Hospital - Rigshospitalet, Copenhagen, Denmark

⁸Department of Clinical Medicine, University of Copenhagen, Copenhagen, Denmark

Correspondence

Michelle S. Chew, Department of Anaesthesia and Intensive Care, Linköping University Hospital, S-58185 Linköping, Sweden. Email: michelle.chew@liu.se

Funding information

Scandinavian Society of Anaesthesiology and Intensive Care Medicine

BACKGROUND 1

Abstract

The Clinical Practice Committee of the Scandinavian Society of Anaesthesiology and Intensive Care Medicine endorses the ISTH guidelines for antithrombotic treatment in COVID-19. This evidence-based guideline serves as a useful decision aid for Nordic anaesthesiologists caring for patients with COVID-19.

KEYWORDS

AGREE II, anticoagulation, clinical practice guideline, COVID-19, ISTH, thromboprophylaxis

COVID-19 infection is associated with a hypercoagulable state and risk of thromboembolism.¹ Variability exists in the prevention 2 of venous thromboembolism among hospitalised patients with COVID-19.^{2,3} While several guidance documents have been

published,⁴⁻⁶ a formal clinical practice guideline using evidence

from randomised clinical trials and well-designed observational

studies was recently issued by the International Society of Thrombosis and Haemostasis.⁷

METHODS

The Clinical Practice Committee (CPC) of the Scandinavian Society of Anaesthesiology and Intensive Care Medicine (SSAI) assessed the

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2023 The Authors. Acta Anaesthesiologica Scandinavica published by John Wiley & Sons Ltd on behalf of Acta Anaesthesiologica Scandinavica Foundation.



FIGURE 1 Summary of the Appraisal of Guidelines for REsearch and Evaluation (AGREE) II assessment.⁸

2022 ISTH guidelines for antithrombotic treatment in COVID-19⁷ for possible endorsement. The Appraisal of Guidelines for REsearch and Evaluation (AGREE) II tool⁸ was used. Details on the endorsement process are available elsewhere.⁹

3 | RESULTS

All six SSAI CPC members completed the appraisal. The individual domain totals were: Scope and Purpose 78%; Stakeholder Involvement 81%; Rigour of Development 78%; Clarity of Presentation 87%; Applicability 30%; Editorial Independence 81%; Overall Assessment 75% (Figure 1).

The breakdown of the individual appraisers (de-identified) is available in the Supporting information.

4 | DISCUSSION

Agreement between the SSAI CPC appraisers was acceptable and the overall assessment of the guideline was good.

Notably, the domain 'Applicability' was poorly rated by the assessors, achieving a scaled domain score of only 30% (Figure 1). The largest concerns were a (lack of) consideration of resource implications and monitoring/auditing criteria. While the SSAI CPC assessors acknowledged these shortcomings, resource implications for implementing appropriate VTE prophylaxis are likely small compared to those resulting from treatment of complications due to

inappropriate dosing. Given the delicate balance between the desirable effects of VTE prophylaxis (reduced risk of VTE) and the undesirable effects (bleeding), we encourage continued followup of COVID-19 patients receiving VTE prophylaxis. Furthermore, auditing through national or Nordic quality registries is strongly encouraged.

Importantly, the ISTH guideline did not use the Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology. This was not perceived as a major weakness by the CPC, but it may pose some challenges when we as Nordic clinicians will be using the guideline at the bedside, since the strength and structure of the recommendations are different than what we are used to.

The 2022 ISTH guidelines for antithrombotic treatment in COVID-19 may be used in daily clinical practice in the Nordic countries with adaptation for resource implications and monitoring/auditing criteria, as outlined above.

5 | CONCLUSION

The SSAI CPC endorses the 2022 ISTH guidelines for antithrombotic treatment in COVID-19.⁷

AUTHOR CONTRIBUTIONS

All authors drafted, revised and approved the manuscript.

FUNDING INFORMATION

Funding was provided from the Scandinavian Society of Anaesthesiology and Intensive Care Medicine and institutional and/or departmental sources.

CONFLICT OF INTEREST STATEMENT

No Clinical Practice Committee member had direct or indirect conflicts of interest.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analysed in this study.

ORCID

Michelle S. Chew D https://orcid.org/0000-0003-2888-4111 Morten Hylander Møller D https://orcid.org/0000-0002-6378-9673

REFERENCES

- Helms J, Tacquard C, Severac F, et al. High risk of thrombosis in patients with severe SARS-CoV-2 infection: a multicenter prospective cohort study. *Int Care Med.* 2020;46:1089-1098.
- Rosovsky RP, Sanfilippo KM, Wang TF, et al. Anticoagulation practice patterns in COVID-19: a global survey. *Res Pract Thromb Haemost*. 2020;4:969-983.
- Ramakrishnan N, Ramasubban S, Hegde A, Govil D. Approach to thromboprophylaxis for prevention of venous thromboembolism in COVID-19: global updates and clinical insights from India. *Clin Pract.* 2022;12: 766-781.
- 4. Moores LK, Tritschler T, Brosnahan S, et al. Thromboprophylaxis in patients with COVID-19. *Chest*. 2022;162:213-225.

3

- 5. Cuker A, Tseng EK, Nieuwlaat R, et al. American Society of Haematology 2021 guidelines on the use of anticoagulation for thromboprophylaxis in patients with COVID-19. *Blood Adv.* 2021;5:872-888.
- British Thoracic Society. BTS Guidance on Venous Thromboembolic Disease in patients with COVID-19. Updated August 2021. www.britthoracic.org.uk. Accessed February 23, 2023
- 7. Schulman S, Scholzberg M, Spyropoulos AC, et al. ISTH guidelines for antithrombotic treatment in COVID-19. *Thromb Haemost*. 2022;20: 2214-2225.
- Brouwers MC, Kho ME, Browman GP, et al. AGREE II: advancing guideline development, reporting and evaluation in health care. J Clin Epidemiol. 2010;63:1308-1311.
- Rehn M, Chew MS, Olkkola KT, Örn Sverrison K, Yli-Hankala A, Møller MH. Endorsement of clinical practice guidelines by the Scandinavian Society of Anaesthesiology and Intensive Care Medicine. *Acta Anaesthesiol Scand*. 2019;63:161-163.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Chew MS, Olkkola KT, Kalliomäki M-L, Rehn M, Sigurðsson MI, Møller MH. ISTH guidelines for antithrombotic treatment in COVID-19: Endorsement by the Scandinavian Society of Anaesthesiology and Intensive Care Medicine. *Acta Anaesthesiol Scand*. 2023; 1-3. doi:10.1111/aas.14259