Scopus

Documents

COVIDSurg Collaborative, GlobalSurg Collaborative

Effects of pre-operative isolation on postoperative pulmonary complications after elective surgery: an international prospective cohort study

(2021) *Anaesthesia*, 76 (11), pp. 1454-1464. Cited 2 times.

DOI: 10.1111/anae.15560

University of Birmingham, Birmingham, United Kingdom

Abstract
We aimed to determine the impact of pre-operative isolation on postoperative pulmonary complications after elective surgery during the global SARS-CoV-2 pandemic. We performed an international prospective cohort study including patients undergoing elective surgery in October 2020. Isolation was defined as the period before surgery during which patients did not leave their house or receive visitors from outside their household. The primary outcome was postoperative pulmonary complications, adjusted in multivariable models for measured confounders. Pre-defined sub-group analyses were performed for the primary outcome. A total of 96,454 patients from 114 countries were included and overall, 26,948 (27.9%) patients isolated before surgery. Postoperative pulmonary complications were recorded in 1947 (2.0%) patients of which 227 (11.7%) were associated with SARS-CoV-2 infection. Patients who isolated pre-operatively were older, had more respiratory comorbidities and were more commonly from areas of high SARS-CoV-2 incidence and high-income countries. Although the overall rates of postoperative pulmonary complications were similar in those that isolated and those that did not (2.1% vs 2.0%, respectively), isolation was associated with higher rates of postoperative pulmonary complications after adjustment (adjusted OR 1.20, 95%CI 1.05–1.36, p = 0.005). Sensitivity analyses revealed no further differences when patients were categorised by: pre-operative testing; use of COVID-19-free pathways; or community SARS-CoV-2 prevalence. The rate of postoperative pulmonary complications increased with periods of isolation longer than 3 days, with an OR (95%CI) at 4–7 days or ≥ 8 days of 1.25 (1.04–1.48), p = 0.015 and 1.31 (1.11–1.55), p = 0.001, respectively. Isolation before elective surgery might be associated with a small but clinically important increased risk of postoperative pulmonary complications. Longer periods of isolation showed no reduction in the risk of postoperative pulmonary complications. These findings have significant implications for global provision of elective surgical care. © 2021 Association of Anaesthetists.

Author Keywords
COVID-19; pathways; pre-operative isolation; SARS-Cov-2; surgery

References

- **Mortality and pulmonary complications in patients undergoing surgery with perioperative SARS-CoV-2 infection: an international cohort study**
  (2020) *Lancet*, 396, pp. 27-38.
- **Preoperative nasopharyngeal swab testing and postoperative pulmonary complications in patients undergoing elective surgery during the SARS-CoV-2 pandemic. Bristish**
  (2021) *Journal of Surgery*, 108, pp. 88-96.
- **Elective cancer surgery in covid-19-free surgical pathways during the SARS-CoV-2 pandemic: an international, multicenter, comparative cohort study**
  (2021) *Journal of Clinical Oncology*, 39, pp. 66-78.
- Sah, P., Vilches, T.N., Moghadas, S.M.
  Accelerated vaccine rollout is imperative to mitigate highly transmissible COVID-19 variants
  (2021) *EClinicalMedicine*, 35.
  100865

- Burki, T.K.
  Challenges in the rollout of COVID-19 vaccines worldwide
  (2021) *Lancet Respiratory Medicine*, 9, pp. e42-e43.
- *COVID-19 rapid guideline: arranging planned care in hospitals and diagnostic services*, 27/07/2020., (accessed 29/06/2021)
- *Recomendaciones para la reapertura de las unidades de CMA durante el periodo de transicion de la pandemia por el COVID-19 (SARS-CoV-2)*, 02/09/2020., (accessed 29/06/2021)
- Amaral, C., Orfao, R., Lanca, F., Azenha, M.

  Recomendacoes para retoma da atividade cirurgica electiva apos condicionamento pela pandemia COVID-19., (accessed 29/06/2021)
- **Timing of surgery following SARS-CoV-2 infection: an international prospective cohort study**
  (2021) *Anaesthesia*, 76, pp. 748-758.
- Elm, E.V., Altman, D.G., Egger, M.
  Strengthening the reporting of observational studies in epidemiology (STROBE) statement: guidelines for reporting observational studies
  (2007) *British Medical Journal*, 335, p. 806.
- *Our World in Data. Coronavirus Pandemic (COVID-19*, (accessed 01/06/2021)
- **Global variation in postoperative mortality and complications after cancer surgery: a multicentre, prospective cohort study in 82 countries**
  (2021) *Lancet*, 397, pp. 387-397.
- Schuch, F.B., Bulzing, R.A., Meyer, J.
  Associations of moderate to vigorous physical activity and sedentary behavior with depressive and anxiety symptoms in self-isolating people during the COVID-19 pandemic: A cross-sectional survey in Brazil
  (2020) *Psychiatry Research*, 292, p. 113339.
- Meyer, J., McDowell, C., Lansing, J.
  Changes in physical activity and sedentary behavior in response to COVID-19 and their associations with mental health in 3052 US adults
  (2020) *International Journal of Environmental Research and Public Health*, 17, p. 6469.
- Pierce, M., McManus, S., Hope, H.
  Mental health responses to the COVID-19 pandemic: a latent class trajectory analysis using longitudinal UK data
  (2021) *Lancet Psychiatry*, 8, pp. 610-619.
- Ammar, A., Trabelsi, K., Brach, M.
  Effects of home confinement on mental health and lifestyle behaviours during the COVID-19 outbreak: insights from the ECLB-COVID19 multicentre study
  (2020) *Biology of Sport*, 38, pp. 9-21.

- Treanor, C., Kyaw, T., Donnelly, M.
An international review and meta-analysis of prehabilitation compared to usual care for cancer patients
(2018) *Journal of Cancer Survivorship*, 12, pp. 64-73.

- Faithfull, S., Turner, L., Poole, K.
Prehabilitation for adults diagnosed with cancer: a systematic review of long-term physical function, nutrition and patient-reported outcomes
(2019) *European Journal of Cancer Care*, 28.

- Kamarajah, S.K., Brunded, J., Weblin, J., Tan, B.H.L.
Critical appraisal on the impact of preoperative rehabilitation and outcomes after major abdominal and cardiothoracic surgery: a systematic review and meta-analysis
(2020) *Surgery*, 167, pp. 540-549.

- Silver, J.K., Sell, N., Parangi, S., Qadan, M.
Prehabilitation may influence surgical morbidity and mortality during and after the covid-19 pandemic. May 2020,
(accessed 10/07/2021)

- **Mortality of emergency abdominal surgery in high-, middle- and low-income countries**
(2016) *British Journal of Surgery*, 103, pp. 971-988.

- El-Boghdadly, K., Cook, T.M., Goodacre, T.
SARS-CoV-2 infection, COVID-19 and timing of elective surgery: a multidisciplinary consensus statement on behalf of the Association of Anaesthetists, the Centre for Peri-operative Care, the Federation of Surgical Specialty Associations, the Royal College of Anaesthetists and the Royal College of Surgeons of England
(2021) *Anaesthesia*, 76, pp. 940-946.

- Mohanan, M., Malani, A., Krishnan, K.
Prevalence of SARS-CoV-2 in Karnataka, India
(2021) *Journal of the American Medical Association*, 325, pp. 1001-1003.

- Mwananyanda, L., Gill, C.J., MacLeod, W.
Covid-19 deaths in Africa: prospective systematic postmortem surveillance study
(2021) *British Medical Journal*, 372, p. 334.

- Verduzco-Gutierrez, M., Bean, A.C., Tenforde, A.S.
How to conduct an outpatient telemedicine rehabilitation or prehabilitation visit
(2020) *Physical Medicine and Rehabilitation*, 12, pp. 714-720.

- Sell, N.M., Silver, J.K., Rando, S.
Prehabilitation telemedicine in neoadjuvant surgical oncology patients during the novel COVID-19 coronavirus pandemic
(2020) *Annals of Surgery*, 272, pp. e81-e83.

Correspondence Address
Simoes J.email: jfs945@bham.ac.uk

Publisher: John Wiley and Sons Inc

ISSN: 00032409
CODEN: ANASA
PubMed ID: 34371522
Language of Original Document: English

Abbreviated Source Title: Anaesthesia
2-s2.0-85115093179
Document Type: Article
Publication Stage: Final
Source: Scopus