

LAPAROSCOPIC SURGERY AND THE DEBATE ON ITS SAFETY DURING COVID-19 PANDEMIC: A SYSTEMATIC REVIEW OF RECOMMENDATIONS

Michael El Boghdady (1, 2), Béatrice M. Ewalds-Kvist (3,4)

(1) University of Edinburgh, UK, (2) Croydon University Hospital, UK

(3) Stockholm University, Sweden, (4) University of Turku, Finland

Introduction:

Aerosol generating procedures such as laparoscopic surgery are known to be associated with increased risks of viral transmission to the healthcare workers. The safety of laparoscopy during the COVID-19 pandemic was therefore debated. We systematically reviewed the literature regarding the safe use of laparoscopy during COVID-19.

Intra-operative considerations during the pandemic:

- Minimise the amount of Trendelenburg.
- Closed technique for pneumoperitoneum.
- Use balloon trocars.
- If a patient is having COVID-19 or is suspected, perform operation in a negative pressure environment.
- CO2 insufflation pressure must be kept to a minimum and an ultrafiltration should be used.
- Set the intraabdominal pressure as low as possible (10–11 mmHg).
- Minimize the use of energy devices, lower the electrocautery power settings; avoid using ultrasonic devices.
- Consider using vacuum suction devices, a HEPA filter or a ULPA filter if possible.
- Aspirate the pneumoperitoneum before removing the last trocar. Ventilate the operating room.

Methods:

We performed a systematic search using PubMed and ScienceDirect databases from inception to 1st May, 2020. The following search terms were used: “laparoscopic surgery and COVID-19”; “minimally invasive surgery and COVID-19”. The study protocol was registered with PROSPERO register.

Results:

Altogether, 174 relevant citations were identified and reviewed for this study, of which 22 articles were included. The analysis of the findings was presented in tabular form. We scrutinized the common recommendations for performing laparoscopy during the COVID-19 pandemic in forms of pre-, intra- and postoperative phases.

Conclusion:

There is no scientific evidence to date for the transmission of COVID-19 by means of laparoscopic surgery. If safe, conservative management is the primary alternative during the pandemic. We concluded that recommended precautions should be respected while performing laparoscopy during the pandemic.

Key statement:

If indicated, laparoscopic surgery can be used with precautions because of supplementary benefits compared to open surgery.

Correspondence: Michael.elboghdady@nhs.net;

further reading: The Surgeon (2020). <https://doi.org/10.1016/j.surge.2020.07.005>