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Surgery during the COVID-19 pandemic

The COVIDSurg Collaborative¹ evaluated 30-day postoperative mortality and pulmonary complications in 1128 patients with COVID-19. This included 421 (37%) patients undergoing abdominal surgery. Pulmonary complications were reported in 577 (51.2%) of 1128 patients, with a high 30-day mortality rate of 23.8% (219 of 577). These outcomes might mainly relate to impaired cell-mediated immunity associated with the acute phase of COVID-19² and the absence of an effective drug therapy.

Notably, high rates of complications (mostly respiratory) and high mortality (22.2%) were also reported after surgery in patients with AIDS during the pre-antiretroviral therapy era.³ However, for abdominal surgery, the use of laparoscopy substantially reduced postoperative morbidity, mortality, and hospital stay in patients with AIDS.⁴ Currently, there is a debate on whether to use the laparoscopic approach in patients with COVID-19 because of the possible risk of aerosol transmission from surgical smoke. This risk remains hypothetical. Indeed, a laparoscopic appendectomy in a patient with COVID-19 showed that viral particles were not detectable in peritoneal fluid.⁵

Similarly to the AIDS example, use of laparoscopy in patients with COVID-19 might reduce morbidity, mortality, and hospital stay, with subsequently decreased risk of virus exposure by the patient and surgical team. Another advantage is that laparoscopy is associated with less perioperative immunosuppression compared with open surgery,⁶ which decreases the probability of postoperative exacerbation of disease after surgery. This advantage is particularly relevant considering that most patients with COVID-19 are asymptomatic or do not have specific symptoms before surgery, and are diagnosed in the immediate postoperative period.¹ Many of these patients are likely to have preoperative sub-clinical infection.²

Given the use of commercially available, or newly devised, low-cost ultrafiltration devices, laparoscopy could be valuable in improving post-operative outcomes of patients with COVID-19 who require abdominal surgery, particularly patients aged 70 years and older and those with comorbidities. Laparoscopy might also lessen the risk of in-hospital secondary transmission.

I declare no competing interests.

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