

Delivery of safe emergency surgical care during the COVID-19 pandemic

Dear Sir,

Emergency general surgical care during the COVID-19 pandemic presents a unique set of challenges. Patients presenting with acute surgical conditions and concomitant COVID-19 infection have a higher risk of mortality and morbidity complications such as pneumonia and acute respiratory distress syndrome.^[1] Hence, it is important to exercise prudence when offering operative management to patients with proven or suspected COVID-19 infection.

Our first encounter with a COVID-19-positive surgical patient was in March 2020 during the early phase of the pandemic.^[2] The index patient presented with uncomplicated cholecystitis shown on computed tomography. He had no respiratory symptoms or contact history and therefore low suspicion of COVID-19. The patient underwent an uneventful laparoscopic

cholecystectomy but subsequently developed acute respiratory syndrome on Postoperative Day 2. He then tested positive for COVID-19 infection and required prolonged ventilatory support and intensive care unit stay. A significant number of healthcare workers (HCWs) involved in this case had to undergo mandatory quarantine as well.

At the start of the pandemic in March 2020, there were no local guidelines or directives with regard to the management of emergency surgical conditions. Hence, we have identified several key strategies to help mitigate risks. The first is risk-stratified hospital COVID-19 screening, whereby all patients are screened based on local disease transmission patterns or guidelines, and high-risk patients are tested and isolated accordingly. The second is prudent selection of patients for surgery. Surgeons would need to adopt a risk-averse strategy when managing emergency surgical conditions, with

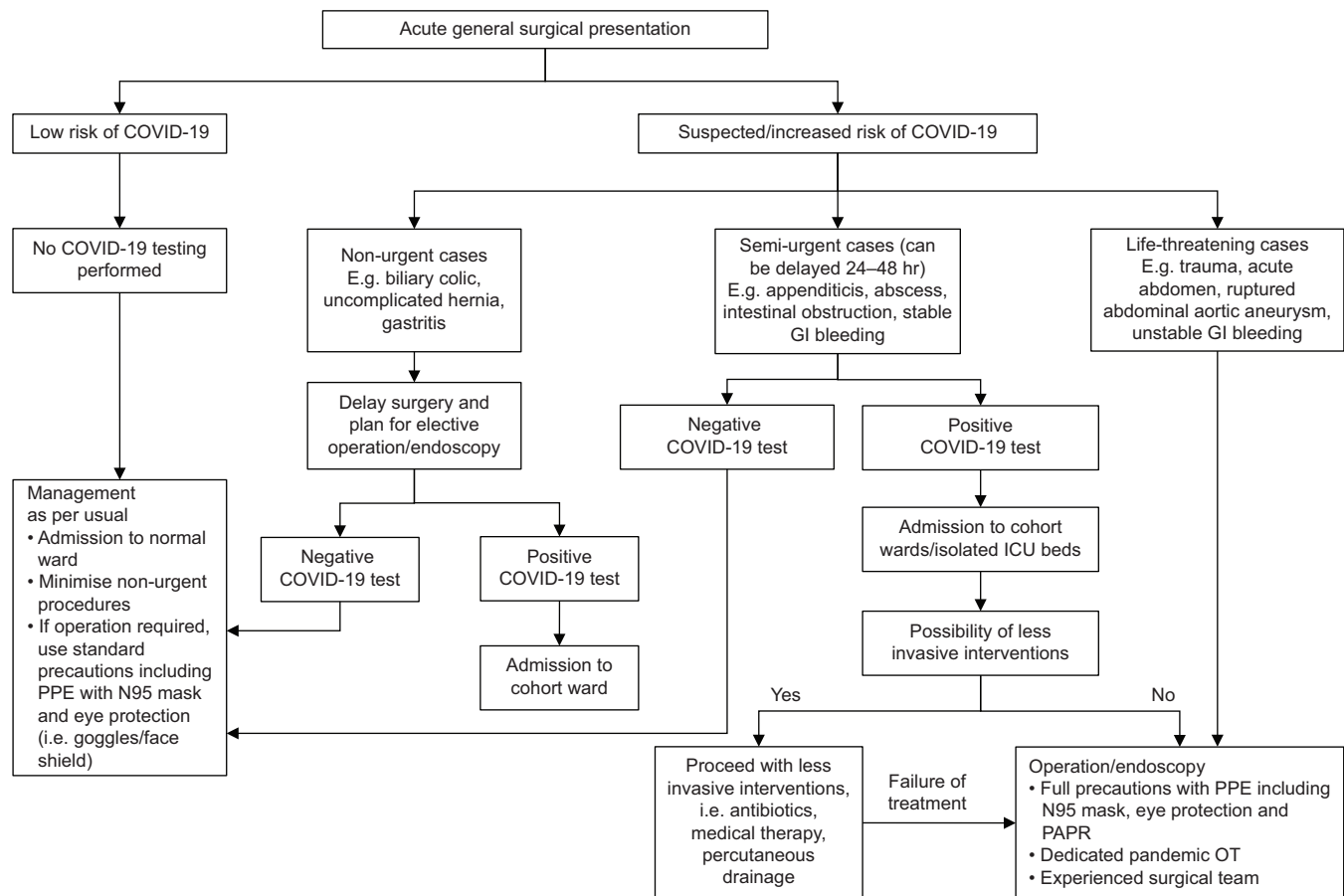


Figure 1: Flowchart shows the suggested workflow for patients presenting with acute general surgical conditions during the COVID-19 pandemic. GI: gastrointestinal, ICU: intensive care unit, OT: operating theatre, PAPR: powered air-purifying respirator, PPE: personal protective equipment.

conservative and non-operative management being attempted first whenever feasible. The American College of Surgeons and the surgical societies in the United Kingdom have recently published guidelines for the management of acute surgical emergencies.^[3,4] Lastly, an institution-specific protocol should be developed to serve as a guideline for clinical decision-making, with emphasis on postoperative complications associated with COVID-19 infection, optimisation of hospital resources and minimising the risk of disease transmission to HCWs. Our institution has adopted a stance that errs on the side of precaution with the use of N95 masks and personal protective equipment (within the operating theatre if an operation is required) even for low-risk and negative COVID-19 patients, who can present asymptomatically as shown in our index case. Furthermore, there is a known risk of false negative testing with COVID-19.^[5]

We have introduced an algorithm [Figure 1] to serve as a guideline for clinical decision-making to reinforce this risk-averse strategy. In the two months since the implementation of the aforementioned protocol, our department has seen another 14 COVID-19-positive patients presenting with emergency general surgical conditions. With strict adherence to the principles of the protocol, we did not encounter any further COVID-19-related or surgical complications in these patients or disease transmission to HCWs in the preceding months. All known COVID-19 patients were admitted to cohort wards or isolated intensive care unit beds as required.

Emergency surgical units in the era of this pandemic must contend not just with patients who present with acute general surgical pathologies but also the possibility of concurrent COVID-19 infections. By developing institution-specific guidelines, we seek to assist clinicians in balancing the need to work within resource constraints and safeguarding HCWs while delivering appropriate patient care.

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Conflicts of interest

There are no conflicts of interest.

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