



Surgical outcomes in undiagnosed, COVID-19 infected patients

Journal Article, Review

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Nahshon C, Bitterman A, Haddad R, Hazzan D, Laviel O. Hazardous Postoperative Outcomes of Unexpected COVID-19 Infected Patients: A Call for Global Consideration of Sampling all Asymptomatic Patients Before Surgical Treatment. *World J Surg*, <https://doi.org/10.1007/s00268-020-05575-2>

Summary

Methods:

- This review is authored by General Surgeons and Gynaecologists from Haifa, Israel
- They reviewed the literature pertaining to the perioperative period in COVID-19 patients who were preoperatively asymptomatic and not tested for COVID-19.
- The postoperative outcomes of such patients, who were later diagnosed COVID-19 positive either by nucleic acid based tests, clinical evaluation or radiology, were reviewed.
- The authors have attempted to formulate opinion about need for knowledge of preoperative COVID status based on available literature.

Results:

- Among the 4 studies included for review, 1 is from Iran and 3 are from China.
- The study from Iran included 3 patients for elective surgeries; hernia, cholecystectomy and hysterectomy.
- Studies from China include:
 - A case report of a Liver transplant
 - 13 cases from lung and esophageal surgery unit
 - 34 cases of elective surgery from various centres in Wuhan, China.
- Overall, 51 patients from 4 studies evaluated; 26 of 51 patients had severe disease.
- The format of reporting is varied but severe disease has been attributed to pneumonia related complications, ARDS, cardiac complications, acute kidney injury, requiring ICU admission etc.
- 14 of 51 patients (27.4%) died; all studies show advanced age, cardiovascular comorbidities (most commonly hypertension) and emphysema as adverse prognostic factors.
- The largest study (n=34) also suggests a greater risk of complications and mortality in prolonged and more complex surgeries.
- The study from the lung and esophageal surgery unit also highlights significant spread to healthcare workers and other patients in the ward, possibly from one super-spreader.

Conclusion:

- COVID-19 may have potential serious implications on the perioperative course and may result in substantial fatality.
- Authors recommend testing all surgical patients particularly in high prevalence areas.

Appraisal

- This is a review based on small number of cases from only 4 studies.
- The authors tested only patients who were symptomatic for COVID postoperatively. Considering the large number of patients not being tested, uneventful recoveries were likely missed. This would affect the reported percentages.
- The studies were conducted on patients operated in the early phase of pandemic, in January and early February; 2020. Screening and management protocols were obviously ill-defined at that time compared to current knowledge.
- The study comes from areas which had known very high prevalence of COVID.
- All studies report a direct association of complication and advanced age and high risk status (patients with comorbidities, complex surgeries). The younger health care workers with no comorbidity infected from patients had no mortality. 2/3 patients who had mortality after undergoing elective surgery in the Iranian study were >75 years of age.
- Despite its shortcomings, this article suggests the possibility of very high risk of complications if undetected COVID-19 patients undergo surgical procedures.

Opinion

This study, authored by surgeons from Israel, is a review of 4 articles where elective or semi-elective surgery was performed for COVID-19 cases without testing for SARS-CoV-2. More than 50% severe disease and 27.4% mortality in such patients is of concern. All studies, however, highlighted the



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presence of comorbid conditions (hypertension, emphysema) and advanced age as factors more likely to lead to adverse outcomes.

Appraisers

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