Favourable perioperative outcomes for children with SARS-CoV-2

Editor

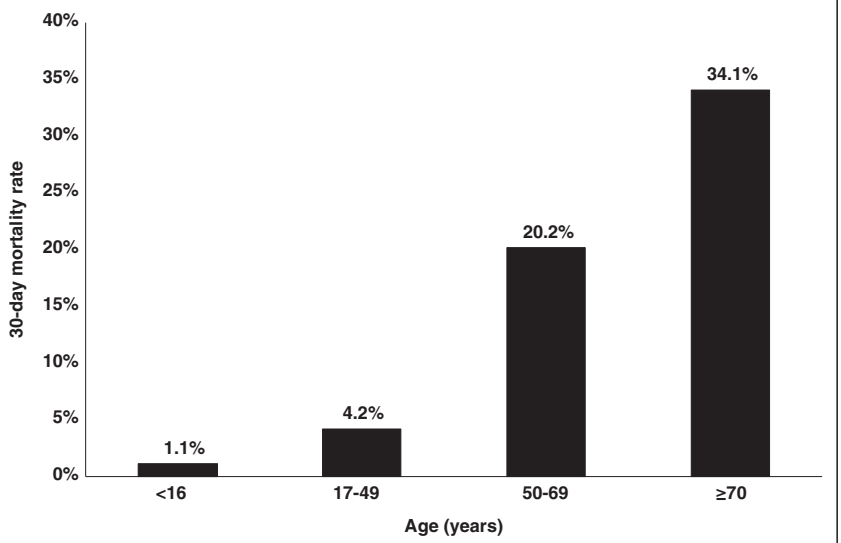
During the Covid-19 pandemic there have been wide-scale cancellations of elective surgery due to resource limitations, concerns for adverse patient outcomes, and risk of nosocomial transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)[1,2]. This practice change has been supported by the high perioperative mortality rate seen in adult surgical patients with SARS-CoV-2[3]. However, the risk of SARS-CoV-2 infection in children undergoing surgery is poorly understood.

CovidSurg is a multicentre, observational, international cohort study of surgical patients with SARS-CoV-2 infection confirmed within 7 days before or 30 days after surgery. Detailed methodology has been reported previously[3]. To better understand the surgical risks for children with SARS-CoV-2, we summarized outcomes in children from CovidSurg who had surgery between January 1 and April 30, 2020.

Of the 5,388 patients in CovidSurg within this timeframe, 88 were children 16 years of age or younger. Data were contributed by 52 hospitals in 21 countries. 56 (63·6%) patients were boys. Diagnosis of SARS-CoV-2 was preoperative in 48 (56%). Most children underwent emergency surgery (89%). Benign disease was the most frequent indication for surgery (81%) followed by trauma (11%) and cancer (8%). Full demographic data are presented in the Supplementary Appendix.

Overall, the 30-day postoperative mortality rate in children was 1·1% (1/88). Pulmonary complications (pneumonia, unexpected postoperative ventilation, and/or acute respiratory distress syndrome) occurred in 13·6% (12/88). The low perioperative morbidity in children compares favourably to the high perioperative risks in adults, who have a pulmonary complication rate of 51·2% and a 30-day postoperative mortality rate of 23·8%, with mortality associated with increasing age (*Fig. 1*)[3].

Fig. 1 30-day postoperative mortality rate for patients with perioperative SARS-CoV-2 infection stratified by age. Adult data from previously published analysis[3]



Although this is the largest cohort of children with perioperative SARS-CoV-2 to date, it has several limitations. The small number of children and low mortality rate limits the power to identify risk factors for adverse outcomes. Our study did not collect several important outcomes for children, including Multisystem Inflammatory Syndrome in Children (MIS-C).

Our study suggests that the surgical risks in children with SARS-CoV-2 are much lower than in adults, mirroring the lower morbidity of SARS-CoV-2 infection seen in children[4]. Routinely postponing surgical procedures in children during the COVID-19 pandemic may risk substantial "collateral damage" to children's health from unnecessary delays in surgical care[5]. Further study is required to determine whether less restrictive surgical rationing policies should be considered for children in the event of a second or prolonged COVID-19 pandemic wave.

Conflict of interest

The authors have no conflicts of interest to declare.

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Supporting information

Additional supporting information can be found online in the Supporting Information section at the end of the article.