

Is it Necessary to Delay the Surgery for Patients who have had Covid-19?

Luis Alejandro Boccalatte*

Head and Neck Surgery, Department of General Surgery, Hospital Italiano de Buenos Aires, Argentina

***Corresponding Author:** Luis Alejandro Boccalatte, Head and Neck Surgery, Department of General Surgery, Hospital Italiano de Buenos Aires, Argentina.

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Background

As part of the Review Board at *Acta Scientific Otolaryngology*® I would like to share my experience as National Lead in Argentina in this huge study. I started joining the main group, which is located in the United Kingdom, as collaborator in April. The first two studies were called "COVIDSurg" the first one and "COVIDSurg-Cancer" the second one. Both *Surg* and *Cancer* studies have several publications and huge impact in the surgical community [1,2]. Due to the number of patients that Argentina had enrolled, in August 2020 the main group in the UK invited me to take part in this project as national lead in my country. Also, I was designated a member of the dissemination committee in order to establish the protocol in Argentina and contribute to the release into the scientific community.

Led by experts at the University of Birmingham, more than 15,000 surgeons worked together as part of the *COVIDSurg Collaborative* to collect data from more than 140,000 patients in almost 1,680 hospitals across 116 countries creating one of the world's largest and broadest studies on surgery. In addition, some countries have contributed with more than 20 hospitals as Australia (44), Austria (27), Brazil (38), India (56), Italy (115), Japan (47), Libya (35), Russian Federation (23), Saudi Arabia (26), Spain (97), Colombia (22), Egypt (33), Ethiopia (24), France (44), Mexico (26), Nigeria (31), Pakistan (30), Portugal (23), Turkey (47), UK (205) and USA (69). The number of patients enrolled per country is shown in figure 1.

The published study

Publishing our findings in the Journal called *Anaesthesia* [3]. Participating hospitals included all patients undergoing a surgi-

Figure 1: This planisphere shows the number of patients enrolled per country.

cal procedure in October 2020. Patients who became infected with SARS-CoV-2 after their surgery were excluded from the study. The primary outcome measure was 30-day postoperative death. Statistical modelling was used to adjust for patient, disease, and operation variables and calculate adjusted 30-day mortality rates for different time periods from SARS-CoV-2 diagnosis to surgery.

The results of the study

We discovered that patients operated 0-6 weeks after SARS-CoV-2 infection diagnosis were at increased risk of postoperative death, as were patients with ongoing symptoms at the time of surgery. We determined that patients are more than two-and-a-half times more likely to die after their operations, if the procedure takes place in the six weeks following a positive diagnosis for SARS-

CoV-2. For that reason, the surgeries should be delayed for seven weeks after a patient tests positive for COVID-19 - as operations taking place up to six weeks after diagnosis are associated with increased risk of death, according to our study.

Time to surgery from SARS-CoV-2 diagnosis was 0 - 2 weeks in 1,144 (0.8%), 3 - 4 weeks in 461 (0.3%), 5 - 6 weeks in 327 (0.2%), 7 weeks or more in 1,205 (0.9%), and 137,590 (97.8%) did not have SARS-CoV-2 infection. Adjusted 30-day mortality in patients who did not have SARS-CoV-2 infection was 1.5%. This was increased in patients operated at 0 - 2 weeks (4.0%), 3 - 4 weeks (4.0%), and at 5 - 6 weeks (3.6%), but not at 7 - 8 weeks (1.5%) after SARS-CoV-2 diagnosis.

These findings were consistent across age groups, differing severity of the patient's condition, urgency of surgery, and grade of surgery and in sensitivity analyses for elective surgery. Following a delay of seven weeks or more, patients with ongoing COVID-19 symptoms (6.0%) had higher mortality than patients whose symptoms had resolved (2.4%) or who had been asymptomatic (1.3%).

Conclusion and Take Home Messages

The two main conclusions of the study are: 1) We recommend that whenever possible surgery should be delayed for at least seven weeks after a positive SARS-CoV-2 test result, or until symptoms resolve if patients have ongoing symptoms for 7 weeks or more after diagnosis and 2) Decisions regarding delaying surgery should be tailored for each patient, since the possible advantages of a minimum seven-week delay following SARS-CoV-2 diagnosis must be balanced against the potential risks of delay. For some urgent surgeries, for example for advanced tumours, surgeons and patients may decide that the risks of delay are not justified.

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