

## Outcomes of Surgical Patients with Covid-19 Infection

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### Abstract...

The viral pandemic, COVID-19, is the subject of much discussion. Surgery and medicine were transformed as the virus swept over the world. More research into the surgical outcomes of COVID-19-infected patients is urgently required. A comprehensive review of the current literature on the treatment of surgical patients with COVID-19 is presented in this article.

**Findings:** Patients who underwent either general surgery or oncological surgery were more likely to have negative outcomes if they were older and suffering from various health issues. Whereas the effects of COVID-19 on pregnancies of pregnant women were minimal. Individuals in need of surgery as a result of the epidemic have been informed of their options. In surgical patients, high number of COVID-19 cases are associated with poor outcomes and high mortality rate. A better understanding of the long-term impact of the virus could lead to modifications in surgical patient care guidelines.

**Keywords:** COVID-19; Surgery; Infection.

### Introduction

The Severe Acute Respiratory Syndrome Coronavirus 2 (SARSCoV-2) has spread over the world since its first case was reported in December 2019. It is estimated that COVID-19, the disease produced by SARS-CoV-2, is infecting people all over the world. When persons with COVID-19 infection cough or sneeze,

they release respiratory droplets that carry the virus that causes the disease. People in close proximity to the droplets may become infected. Droplets can also contaminate surfaces, allowing the virus to be picked up by other persons. The economic and healthcare crises have been quite dire. In the initial period of the pandemic, many hospitals are struggling to keep up with the influx of patients due to the rapidly deteriorating global

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economy. Covid-19 serves as a sobering reminder that new and re-emerging pathogens remain a constant threat. This disease can cause a wide range of symptoms such as fever, cold, cough, headache, joint pain, loss of taste and smell and many more, but many Covid-19 patients are lack of symptoms. Covid-19 can be serious with pneumonia and life-threatening complications such as Acute Respiratory Distress Syndrome (ARDS), organ failure, or death. People over the age of 65 and those with pre-existing respiratory or cardiovascular conditions are likely to be most at risk [1-4]. The Covid19 positive patients administered with anaesthesia require details on their procedure and recovery. Many previous studies indicated that resources and outcomes related to surgical experiments have been significantly impacted by COVID-19. One report suggest that in US, People are suffered more if they postpone elective surgery. A proper investigation should be conducted with COVID-19 positive patients dealt with surgery should be treated and followed up for proper information on their health and the outcome of the procedure. This review article examines the available research and discusses COVID-19's effects on surgical patients. Preoperative, perioperative, and postoperative care for various surgical procedures has also been discussed. There are different strains different symptoms of SARS-CoV-2 infection some people recover easily whereas some people face many life-threatening complications such as Acute Respiratory Distress Syndrome (ARDS), multisystem organ failure, psychosis, utmost complications cause death of the patient. Majority of high risk group consists of older people and people who already have respiratory, diabetes, cardiovascular problems, surgery of this group people is a bit critical ,so these cases have to be follow up till their full recovery [5,6].

### Role of COVID 19 in different surgical procedures

COVID19 pandemic is a public health emergency i.e. cause problem all around the world. According to Gao et al., this is a situation of health emergency and many healthcare facilities advised to patients and their families that delaying surgery might be safe for the patient, it mentioned about how the healthcare facilities dealt with COVID-19 positive patients who needed surgery right away. It described in early 2020 about four patients suspected for COVID-19 infection, all four suspects had signs of acute peritonitis, two of whom also had signs of gastrointestinal perforation. During their chest CT scan, opacities or infiltrations in the lungs of all four cases. Three cases also had symptoms of pneumonia. All four cases had to have their bowels cut or repaired. Later on, these patients were found COVID-19 negative by polymerase chain reaction detection method [7]. As per Lie et.al, in early 2020 Wuhan 34 asymptomatic COVID-19 positive cases were undergone with surgery, according to his study at that time these cases were unknowingly positive for COVID-19. Among them many cases having comorbidities like hypertension, cancer, diabetes, kidney and liver complications. Those cases having elevated liver and kidney function parameters. Many of them undergone with prostate, other body parts and cancer surgeries [8] same kind of issues also observed by Kafarani et al., in another study. According to Turga et al., delaying of cancer surgeries is safe so it can be delayed up to 4 weeks [9].

Internationally some multicentric collaborative Groups performing especially surgery of COVID positive cases in many countries. According to them among 1128 cases screened and positive with COVID19 within 7 days before or 30 days after the surgery, 294 (261%) cases were found infected prior to surgery. Their mortality was 23% - 28% in a month linked with Males

crossed 70 years of their age. It was observed that in 51% cases had problem in lungs and urgent and major surgery were all linked to a higher risk of death in between one month [10]. According to Liang et al., death was observed more in cancer patients infected with COVID19 [11].

### Organ transplantation aspect

Some previous report suggests that, in case of organ transplantation with COVID-19 positive cases was very critical. According to Banerjee et al., In London, seven COVID-19 positive cases with kidney transplant issues reported in three Hospitals. These cases are symptomatic with fever and respiratory problems; they were in an age group of 45 to 69. They were reported positive for COVID-19 tests over a period of six-weeks from their transplantations; four cases were in ICU treated with life supportive care and one died. It was observed that People who had a lot of Lymphopenia, D-dimer, troponin and ferritin more likely produce bad outcome. As per Banerjee et al., [12] in the initial stage of hospitalisation, they stopped antiproliferative and tacrolimus but they increased doses of prednisolone .He also reported that in initial period of COVID outbreak there was a delay in kidney transplants, especially for people who are at risk. As per Bhoori et al., Over 7,000 people died in a huge outbreak of COVID-19 at Italy, but many patients around 111 numbers had liver transplant around 10 years ago from COVID19. From those liver transplant patients three were died within 3-12 days of the symptoms observed, who had hyperlipidemia, high blood pressure, and diabetes. During initial stage of hospitalisation, these people had community-acquired pneumonia, needed secondary oxygen and had ARDS that needed mechanical ventilation. Around 40 liver transplants three were found COVID-19 positive were quarantined and treated till their health issues were solved, it indicates that immunosuppressed adult liver transplant recipients are not likely to get severe COVID-19 disease [13]. As per D'Antiga, After the COVID-19 outbreak, in Italy 200 children who had liver transplants cases none of them had clinical pulmonary disease, but three of them had COVID-19. They reported that children who had suppressed immune systems were not likely to get COVID-19 [14]. As per Zhong et al., there were two COVID-19 cases had liver transplant and hepatitis B infection. Both had different treatments and outcomes [15], after 9 days of transplantation they were positive for COVID19 and clinicians decided to stop intake of immunosuppressive drugs and instead use low dose methylprednisolone-based Aziz et al. As per Fernández-Ruiz et al., Clinicians in Madrid discussed about 18 cases had liver, kidney, and heart transplants and had COVID19. The old age patients with transplant were suffered more. There was a small group patients had severe lung disease and diarrhoea than others. Lopinavir/ritonavir was administered with two patients for two weeks, sometimes hydrochlorothiazide given, but they had to stop taking it early because of gastrointestinal problems and because it didn't work well with tacrolimus. Besides hydroxychloroquine monotherapy and interferon, there were other antiviral regimens, too. According to the report, it was hard to keep the levels of tacrolimus in patients taking antiviral drugs at the right level. As per the report death rate was 27.8%, and all are men over 60 years of age [16].

### Aspect of pregnancy

As per the previous report nine pregnant women undergone with third trimester, who had COVID-19 pneumonia. These seven patients were symptomatic. Fetal distress happened in two of the cases. None of them died. Nine births were reported [17].

## Aspect of Covid management in surgery

In COVID19 management situation, the major part is to care the patients who need surgery, support of Anaesthesia. To avoid coughing, anaesthesia should be given quickly with enough muscle relaxation. The COVID19 operation theatre will be made and set up with proper COVID19 guideline, which will specifically for COVID19 patients must help to stop the disease. Restricted zone should be marked. Entry inside the OT should be restricted only to people having surgical expertise only or entered with the permission of expertise clinician or person entered as per the clinical guidelines. After the surgery, the operating room must be cleaned properly following the updated COVID19 surgical guidelines. The person who comes into contact with SARSCoV-2 infectious pneumonia should be quarantined and under observation for a time period of 14 days. During anaesthesia maintenance will done by surgical anesthetist, lung-protective ventilation should be used to keep the ventilator from hurting the lungs following updated COVID19 ventilating guideline. Under some conditions, the COVID-19 virus can survive for several days on some surfaces, such as stainless steel and plastic. In the presence of sunlight, humidity, and temperature, the virus's life span might be affected. A disinfectant and a neutral detergent are all that is needed to get rid of the virus. Surgical site infection should be regularly monitored [18-21].

## Conclusion

Surgery is a basic requirement of healthcare facility and in this pandemic situation it plays a great role. But basic guidelines should be followed for the betterment of mankind. Every working person inside the surgical facility should use Personal Protective Equipment (PPE), they should know about the proper donning doffing criteria, sterilisation, disinfection and bio medical waste management will be done by following the criteria provided by WHO and CDC. Tape off an area outside the operating room door where these things can be done. No extra things should be brought inside this restricted area. Specific staff should be provided in the operating room at all times to provide necessary requirements as per the requirement for the case.

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