

# **Challenges in Surgery in COVID-19 Pandemic: Bangladesh Perspective**

Surgery during the period of COVID-19 pandemic faces the challenges in everyday clinical practice like prioritization of surgical interventions, establishment of SARS-CoV-2 and non-SARS-CoV-2 emergency rooms, establishment of a SARS-CoV-2 surgical non-intensive care ward, establishment of a surgical SARS-CoV-2 operating area and necessary precautions when using certain surgical techniques<sup>1</sup>. Each hospital, health system, and surgeon should thoughtfully review all scheduled elective procedures with a plan to minimize, postpone, or cancel electively scheduled operations, endoscopies, or other invasive procedures.

Healthcare workers are on the front lines of caring for patients with COVID-19 and have very high risk of exposure to the virus<sup>2</sup>. Shortages of protective equipment and knowledge regarding COVID-19 are causing infections in healthcare workers. This strongly suggests that adequate knowledge about disease transmission and use of protective gear and infection control protocols are essential to prevent spread of infection among healthcare workers. The surgeons are frontline health workers and there is evidence that several series of infections emerged from operating theaters in China<sup>3</sup>. During this endemic of COVID-19, need for emergency surgery should be considered as a priority for admission. Surgeons should schedule surgery based on the severity of threat to the patient's life and health. After admission, different management protocols have been applied based on the COVID-19 risk level of patients. Confirmed and suspected patients requiring emergency surgery should be admitted in the isolation ward.

American College of Surgeons (ACS) advised to postpone no urgent elective surgeries during the beginning of the pandemic of COVID-19. They have classified surgeries into various tiers according to the urgency. Up to Tier 2b which is most elective surgeries like asymptomatic surgical patients, patients with mild symptoms, low risk cancer patients, they are advising to postpone the surgery. For Tier 3a and 3b which is most cancer surgeries and highly symptomatic surgical patients, ACS is not advising postponement at this moment but it may change<sup>4</sup>. According to guidelines from the Indian Council of Medical Research, all high-risk patients undergoing elective surgery should undergo PCR test for COVID19 before surgery. If the patient's RT PCR test is twice

negative, surgeons can proceed with regular surgical protocols. If the patient's RT PCR test is positive, then the patient needs to be transferred to the isolation ward to complete the preoperative preparation and elective surgery should be deferred until the patient recovers<sup>5</sup>.

During any surgical intervention or any invasive procedures irrespective of aerosol generating or not, all the theatre staffs have the highest possibility of being infected. Certain recommendations are made for the safety of the theatre staffs. The operating area should have anterooms with a negative pressure system, materials or objects not essential for the operation like pens, telephones, keys should remain outside the operating area and the materials required for the operation should all be disinfected and immediately disposed of after use, have minimum number of personnel in the operating room, no visitors or observers allowed in the operation theaters; entering and leaving the operating room should be kept to an absolute minimum. The patient should not be moved to a post-anaesthesia recovery room rather than transferred directly to the SARSCoV- 2 surgical ward or intensive care unit. Surgeons and personnel not needed for intubation should remain outside the operating room until anesthesia induction and intubation are completed. All surgery should be performed in a quick and efficient manner, 8. Dual consultant operating and reduction in training procedures should be considered to decrease operating times if operating resources are severely limited<sup>6</sup>.

For suspected or confirmed patients, adequate oxygen therapy and nebulization should be ensured in the postoperative ward as well as surgeons should pay attention to nutritional supplement and organ support treatment for all postoperative patients<sup>7</sup>. As these patients have a greater risk of complications such as deep vein thrombosis (DVT) and secondary pulmonary infections, early prophylactic measures should be taken. For high-risk patients who develop cough with fever after surgery, a chest CT-scan and RT-PCR for COVID-19 test should be advised.

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