

TMSS Medical College Journal (TMCJ)

Volume 15, No. 02, July 2020

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An Official Publication of TMSS Medical College



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An Official Publication
of
TMSS Medical College, Bogura, Bangladesh

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Vol. 15, No. 2, July 2020

An Official Publication of TMSS Medical College, Bogura, Bangladesh

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Printed by

TMSS Printing Press

Bogura, Bangladesh

e-mail: tmssprintingpress@gmail.com

Address of Correspondence

Executive Editor, TMSS Medical College Journal, TMSS Medical College

Rangpur Road, Thengamara, Bogura, Bangladesh.

Phone: 051-61830, Fax : 051-61830

e-mail: editortmcjournal@gmail.com, Web: www.tmssmedicalcollege.com

Editorial

Impact of COVID-19 Pandemic on Surgical Services

Md. Abdul Mazid*

The Coronavirus disease 2019 (COVID-19) is a contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first case was identified in Wuhan, China, in December 2019.¹ The World Health Organization (WHO) on March 11, 2020, has declared the novel coronavirus (COVID-19) outbreak a global pandemic.²

Coronavirus is highly contagious, can spread through both direct means (droplet and human-to-human transmission) and by indirect contact (contaminated objects and airborne contagion), and there has not yet been any vaccine or effective treatment that has received approval. Meanwhile personal protective equipment (PPE) could also be the source of airborne infections.³ As mentioned before, person-to-person spread is supposed to occur mainly via respiratory droplets, when a patient coughs, sneezes, or even talks or sings. The World Health Organization (WHO) has stated that education, isolation, prevention, controlling the transmission, and treatment of infected persons are the critical steps in controlling COVID-19.⁴ Isolation is impossible to practice in the operating room because surgical team including anesthesiologist has to stand close to the patient to adequately perform procedure and intubation, which increases the exposure to aerosols that may be contaminated by the virus. Further, the virus also spreads through biological fluids, thus compromising the safety of the surgical environment in most cases.⁵

The coronavirus disease 2019 (COVID-19) pandemic has had a substantial effect on surgeons and patients who require surgical care. Providing care for patients with surgical disease requires a unique and intimate relationship between the patient and surgeon, and this interaction and contact cannot be replaced by telehealth. As such, the surgical workforce has faced distinct challenges compared with nonsurgical specialties during the COVID-19 pandemic.⁶

The rapid spread of COVID-19 has changed the global surgical care.⁷ Surgery for high-risk cases cannot be postponed; however, the virus has a high transmissibility. Coronavirus could penetrate traditional surgical masks and gowns, thus necessitating the use of N95 masks and level 3 protection suits.⁸ Another significant concern is the procedure time, as greater exposure in the operating room leads to a higher risk of infection. Therefore, suggested that a team comprising the minimum number of experienced professionals should perform the surgery to optimize the procedure and reduce the surgery time.⁹ Another recommended approach for enhancing safety is selecting only known and reliable methods to reduce the risk of postoperative complications and prolonged hospitalization.¹

In this context, surgery is one of the areas facing the need for many adaptations. In many places, elective surgeries are preferably postponed and urgent/emergency surgeries – such as surgery for trauma and complicated hernias – are continued with some alterations (e.g., reducing the number of surgical staff and modifying the organization of the operating room).¹⁰⁻¹³ Many societies and authors have published different guidelines with respect to surgical protocols in this pandemic situation.¹ The most prevalent recommendation to protect both patients and health care workers, many institutions are testing all surgical patients for COVID-19 prior to operations or other procedures and also offered recommendations about surgical practice, including reorganization of the operating room schedule to provide only essential surgical services, guaranteeing psychological support to surgical staff, increasing protective measures to level 3 standards, and utilizing telemedicine for consultations that do not require physical evaluation.^{1,14-18}

The COVID-19 pandemic has also created challenges in the education of the future surgical workforce. Trainee involvement must be reevaluated, as it can lead to an increase in procedure time and,

*Associate Professor
Department of Surgery
TMSS Medical College, Bogura, Bangladesh.
Email: mazidtmss@gmail.com

consequently, the risk of exposure.¹⁹ The involvement of medical students in the clerkship and subinternship periods in teaching hospitals also leads to a similar problem as trainee involvement. The use of electrocautery is controversial because it produces a high concentration of contaminated gases. Therefore, suggested avoiding its use in a pandemic setting.²⁰

For managing COVID-19 patients, operating theatres and anaesthesia machines may be converted to temporary respiratory support units. Postoperative recovery rooms and intermediate-care units may be used as care units outside regular intensive care to manage sick patients with COVID-19.²¹

Surgical patients have unique risks due to COVID-19. Pathological changes in blood coagulation²², inflammatory response²³, and co-morbidities added to single or multiple organ failures²⁴ may be considered as mechanisms for added risk for surgery. Operating on patients with either asymptomatic or symptomatic COVID-19 increases the risk for perioperative morbidity and mortality. The 30-day risk of mortality for patients with COVID-19 undergoing surgery, compared with patients without COVID-19, was significantly higher (19.51% vs 2.44%). The perioperative pulmonary & thrombotic complications also were significantly higher. Asymptomatic COVID-19 patients have worse postoperative outcomes with an unexpectedly high morbidity and mortality, reaching 20.5 per cent deaths.^{25,26}

The financial implications of the surgical shutdown have been far-reaching. Many health care employees have been affected by pay cuts, furloughs, and layoffs. Surgical private practices that could not bear the financial challenges of the pandemic have been forced to shut down. Some surgeons have retired early or decided to leave the surgical profession.

Surgical care that is not essential or time-critical can be delayed and deferred to a later date when the pandemic subsides. However, even in the midst of a pandemic certain procedure types must be performed, including appropriate cancer treatment, emergency surgery and urgent transplantation, as these are considered life-saving procedures with curative potential. All surgical patients should be screened for COVID-19. Surgical staff should be reduced to the minimum and performed by the most experienced surgeon, so that the procedure time is reduced.

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(TMSS Medical College Journal 2020;15(2):5-7)