COVID-19-tailored approach to cardiac surgical safeguarding: stepwise protocol

The COVID-19 pandemic has affected all aspects of daily life, causing far-reaching implications including the various constituents of healthcare. As a consequence, various surgical specialties have initiated work on pandemic-oriented guidelines. Similarly, our institution has adopted an innovative and modified approach to the preexisting policies. These policies, in the context of the pandemic, are tailored to the needs of a developing country. Based on international experience, new guidelines have been drawn up to be practiced across all surgical subspecialties. Efficient strategies have had to be developed in the cardiac surgery department. We have devised a protocol and strategy to minimize COVID-19-related mortality or morbidity. Our strategy divides the protocol into 3 phases: preoperative, intraoperative, and postoperative (Figure 1).

We began by reducing the daily operating room slots to reduce exposure to patients and healthcare staff. All scheduled out-patients, follow-up or new, are instructed to wear an appropriate mask before arriving at the hospital. This is carried out by telephone and email, and the patients were also reassured about the additional hospital precautions being undertaken. Once a detailed history is taken by the healthcare staff to rule out any COVID-19 symptoms, the patient is advised to undergo a COVID-19 test at least 48 hours before the planned surgery. The patient is then admitted to the ward if he/she has tested negative. The healthcare staff wear masks, eye shields, and gloves at all times. Hand sanitation is also undertaken before and after patient contact. The patient is only allowed one designated attendant, fully masked and sanitized, who is given minimal preoperative time. This helps to prevent cross-contamination.

The patient is first prepared in a designated preoperative area in a timely fashion. The patient is then moved into the operating room. Here, the anesthesia team fully complies with the standard operating procedures and use of respirators and personal protective equipment.
equipment. The patient wears a mask until the point of intubation, when only the anesthesia team and chief surgeon are present. A smooth transition is then made when the remaining surgical team enters after all accessory staff have exited. The surgical team consists of the minimum personnel required to operate successfully, hence limiting the scrub-in count. Heavy emphasis is also placed on sanitization and compliance with the use of masks throughout the surgery.

Postoperatively, the patient is moved to the coronary intensive care unit where separately assigned staff, who wear N95 masks, care for each patient. Similar to the conditions preoperatively, only the one attendant, taking full precautions, will be allowed to visit the patient. Measures including appropriate social distancing and an only as necessary intra-staff contact policy are also adopted.

For urgent and emergency cases, the patient is moved into a negative-pressure isolation room. A COVID-19 test is subsequently conducted, and surgery is offered only if the COVID-19 test is negative. If the patient is COVID-19-positive, he/she is continued on medical treatment and surgery is postponed to a later date, as an elective case. This is important because, at times, the risks to the patient, healthcare staff, and public greatly outweigh the benefits. This scheme has worked out very well for us in terms of improving safety and minimizing adverse outcomes (Figure 1).

References
1. Liu Z, Zhang Y, Wang X, Zhang D, Diao D, Chandramohan K and Booth CM. Recommendations for surgery during the novel coronavirus (COVID-19) epidemic. Indian J Surg 2020 Apr 11: 1–5.
2. Al-Jabir A, Kerwan A, Nicola M, et al. Impact of the coronavirus (COVID-19) pandemic on surgical practice – Part 2 (surgical prioritisation). Int J Surg 2020; 79: 233–248.
3. Nahshon C, Bitterman A, Haddad R, Hazzan D and Lavie O. Hazardous postoperative outcomes of unexpected COVID-19 infected patients: a call for global consideration of sampling all asymptomatic patients before surgical treatment. World J Surg 2020; 44: 2477–2481.

ORCID iD
Hamdan Mallick https://orcid.org/0000-0001-5849-5470

Yasir Khan1, Hamdan Mallick2 and Syed Shahabuddin1
1Department of Cardiothoracic Surgery, Aga Khan University, Karachi, Pakistan
2Medical College, Aga Khan University, Karachi, Pakistan

Corresponding author:
Hamdan Mallick, Medical College, Aga Khan University, Stadium Road, Katachi 74880, Pakistan.
Email: Mallick658@gmail.com