Original Article

Recommendations of the Laparoscopic Surgery Society of Nigeria on the Conduct of Minimal Access Surgeries during and after the COVID-19 Pandemic in Nigeria

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ABSTRACT

Background: COVID-19 pandemic has affected surgical practice worldwide. Laparoscopic procedures utilizing gas for pneumoperitoneum require specific consideration. **Method:** A panel of experts of the Laparoscopic Surgery Society of Nigeria (LASSON) was constituted to draft recommendations on the conduct of minimal access surgical (MAS) procedures during and after the pandemic in Nigeria. **Results:** The Society strongly believes that laparoscopy and other (MAS) procedures can be safely performed during and after the current COVID-19 pandemic if appropriate safety measures are adhered to. The Society therefore makes the following recommendations for all units performing MAS in Nigeria: (1) Design clear cut measures to navigate the pandemic in each hospital. (2) Triage surgical services and procedures. (3) Encourage screening and testing of all patients (4) Provide adequate patient communication and consenting (5) Ensure compulsory use of Personal Protective Equipments (PPEs) (6) Minimize preoperative and intraoperative personnel (7) Envisage postoperative respiratory challenges and make adequate preparation for respiratory support: (8) Make specific considerations for the confirmed COVID 19 positive patients:(9) Private facilities offering MAS and endoscopic procedures should take special measures during the pandemic (10) Know your limits. **Conclusion:** The Society encourages all MAS practitioners to adhere to these recommendations.

KEYWORDS: *COVID-19, laparoscopy, Nigeria*

BACKGROUND

The current COVID-19 pandemic has adversely impacted on surgical practice across the world, Nigeria inclusive.[1-3] There are >16, 000 confirmed cases of COVID-19 in Nigeria by the middle of June 2020, but there are projections that >200,000 cases may be recorded across the country in a few months ahead.[4] With our backlog of unmet surgical needs, the disruption of surgical services during the pandemic implies that the need to provide surgeries in various forms, emergency and elective, conventional open, and minimal access, to patients with and without COVID-19 infection, will certainly increase over time.

The Laparoscopic Surgery Society of Nigeria has been in the vanguard of expanding access to minimal access surgery (MAS) across the various surgical specialties in Nigeria while maintaining high clinical and professional standards with local adaptations for sustainable and affordable practice. This has been achieved by setting standards and operational guidelines for sound and safe MAS practice and through various laparoendoscopic surgery workshops and masterclasses as well as

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through focused clinical immersion and mentoring. The society is, therefore, in a vantage position to make recommendations for the practice of MAS in Nigeria regarding the current pandemic.

Few publications have recently expressed reservations regarding the safety of laparoscopic surgery during the pandemic.[5,6] This arose from the fear of possible aerosolization and COVID-19 virus spread through the laparoscopic pneumoperitoneum or the plume generated from the use of energy devices. Currently, there is no documented evidence to indicate that pneumoperitoneum or use of electrosurgery during laparoscopy increases the risk of disease transmission through the surgical plume or pneumoperitoneum.[7-11] Further, laparoscopic surgery in patients with HIV and hepatitis B and C has been ongoing for decades, without documented increased risk of transmission from the surgical plume or laparoscopic pneumoperitoneum to surgeons, anesthesiologists, or operating room personnel.[12,13] Our society believes that in spite of the obvious challenges brought forth by the pandemic, MAS still offers peculiar advantages to Nigerian patients and our health-care system in these difficult situations. The shorter duration of hospital stays attending MAS and potentially reduced frequency of postoperative hospital visits for possible wound complications should encourage competent surgeons and endoscopists to offer MAS to patients as a preferred method during and beyond this pandemic. The society, therefore, made the following recommendations for the practice of MAS, including but not limited to laparoscopic and endoscopic procedures in Nigeria during the current pandemic taking into consideration the peculiarities of the Nigerian health-care environment.

Recommendations

Design clear cut measures to navigate the pandemic in each hospital

The society advises all surgeons and endoscopists across Nigeria to design or modify their unit practice policies and protocols to reflect the current pandemic and adhere strictly to specific safety measures to protect patients, health-care workers, and systems in the face of this pandemic. While we acknowledge that no single cap fits all, the recommendations of the Nigerian Center for Disease Control, the World Health Organization, and other relevant global, regional, and national agencies should guide measures for individual hospitals and practices.[14-19]

Triage surgical services and procedures

We recommend postponement of elective cases while making adequate provisions for emergencies during the peak of the pandemic. All emergencies and cancer operations should be prioritized over and above the elective ones. We advocate that strategic decision-making in triaging surgical priorities and resource allocations should continue even after the peak of the pandemic, particularly in our public secondary and tertiary care hospitals.

Encourage screening and testing of all patients

Testing kits and testing centers are not widely available across the country. Patients who have relevant COVID-19 symptoms and or exposure to infected or suspicious contacts or locations should be tested before being scheduled for elective minimal access operations, including laparoscopy and endoscopy, to ascertain the infection status of each patient. This will not only enhance proper preparation for the procedure but will also be necessary documentation for medicolegal issues that may arise from patient contracting COVID-19 in the perioperative period. When the urgency of the surgery does not afford the time for testing, such patients are to be treated as COVID-19 positive with specific considerations, as listed below.

Provide adequate patient communication and consenting

We advocate that senior surgical team members participate in all communications, including consenting for the surgery during this pandemic. The attempt must be made to clearly explain the risk of acquiring COVID-19 infection and local measures taken to prevent such to the patients. If tested, the result and the sensitivity and specificity of the type of test used should be communicated to the patient. The increased risk of postoperative complications, morbidities, and mortalities in COVID-19 positive patients must be preoperatively discussed and consented to by patients.

Ensure compulsory use of personal protective equipment

It is compulsory to ensure that all members of the surgical team use the appropriate personal protective equipments (PPEs) for all patients undergoing minimal access surgeries during the pandemic irrespective of their COVID-19 infection status. This should include everyone involved in the perioperative management of the patient within and outside the operating theatres, intensive care units (ICUs), and surgical wards. Recently, the World Gastroenterology Organization in making recommendations for the practice of endoscopy in low-resource settings during the pandemic recommended that the minimum level of PPE even for a patient triaged as low risk includes scrubs, hair covering, long waterproof gown, boots, face shield or goggles, a reused respirator, or surgical mask.[18] We recommend that for

laparoscopic surgery in our setting, a similar minimum PPE should be adopted.

Minimize preoperative and intraoperative personnel

In many public hospitals across Nigeria, MAS procedures still attract a large crowd of interested trainees, students, and practitioners from across all health-care professions in the different operating rooms. The society recommends that in compliance with social distancing, only indispensable personnel and those critical for smooth running of the procedures being performed should be involved in the intraoperative processes. Digital transmission of procedures with options of voice feedback to a teaching space will aid the teaching of students. Pre-and post-operative physical contact between patients and the surgical team should be minimized through telepractice for feasible perioperative consultations, reviews, pain, wound management, and among others.

Envisage postoperative respiratory challenges and make adequate preparation for respiratory support

Operative procedures in COVID-19 positive patient have been associated with postoperative complications in up to half of the patients.[1] Laparoscopy and endoscopic procedures requiring elevated intraabdominal pressure may be associated with respiratory complications and the possibility of severe acute respiratory depression following surgery should be envisaged. Adequate preparations, particularly of personnel and facilities for ventilatory support should be made in the preoperative period. The lack of dedicated Intensive Care or High-Dependency Units for COVID-19 patients should inform preoperative planning and possible referral of patients if required.

Observe special measures for the confirmed COVID-19-positive patients

a. Delay operation till negative: COVID-19-positive patients should only be operated on only if nonoperative methods have failed or it is clearly evident that a nonoperative method would be unsuccessful or inappropriate
b. Dedicated OR: Where possible, we encourage institutions to have a dedicated theater for patients with COVID-19 infection. This will enhance the enforcement of maximum safety measures to prevent transmission of infection among patients and health-care personnel
c. Senior surgeons and team: Only very senior and experienced surgeons, anesthetists, nurses, and other health-care personnel should be selected into the team to carry out intraoperative and postoperative care of COVID-19 positive patients. Health-care personnel in the at-risk age-group should, however, not be involved in laparoscopy on an infected patient
d. Manage surgical plume appropriately, minimize the use of energy to reduce smoke generation, and control evacuation of pneumoperitoneum with smoke evacuators if available
e. Specific respiratory support: Most of our public tertiary hospitals have limited ICU beds. Noninvasive ventilatory support in the form of high-flow oxygen through a re-breathing bag would be offered in most isolation centers. This should be considered while planning operations and discussed with the patient along with the clear option of referring to a better-equipped center.

Specific recommendations for private facilities offering minimal access surgery and endoscopic procedures

All private facilities without adequate protective measures against COVID-19 events should strongly consider deferring laparoscopic and endoscopic procedures or refer them to an adequately equipped facility. Patients with COVID-19 should be referred to a government-designated facility for further care. All safety measures must be strictly adhered to by all members of the surgical team, including surgeons, nurses, and other support staff. It is imperative for each private facility to have a team lead who oversees the observance of the safety recommendations.

Know your limits

Above all, the society recommends that each surgeon and institution should recognize their limitation in terms of personnel and facilities required to handle complications, including requirements for a possible worst-case scenario in individual patients, including plans for a referral if required. It is important to envisage, plan for, and set machineries in motion for known and possible complications in patients with and without COVID-19 infection at this moment than to have patients stranded for preventable postoperative logistics, personnel, and facility inadequacies.

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Conflicts of interest

There are no conflicts of interest.

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