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ORIGINAL ARTICLE

Influence of Covid-19 on Surgical Practice: An update is a need

SUNDAS JAVEED[1], FARID AHMAD KHAN[2], MUHAMMAD AWAIS[3], AYESHA WAHEED[4], RIZWAN KHAN[5], ROOH-UL-AIN[6], KOMAL SAEED[7]

[1,,74]Post Graduate Trainee, Institute: Services Institute Of Medical Sciences, Lahore
[2]Professor of Plastic Surgery, Institute: Services Institute of Medical Sciences, Lahore
[3,6]Senior Registrar, Shalimar Medical and Dental College, Lahore
[5]Associate Professor, Shalimar Medical and Dental College, Lahore
Correspondence to Dr. Sundas Javeed, E-mail: drsundusjavaid@yahoo.com

ABSTRACT

Aim: To evaluate existing practice recommendations in the event of a COVID-19 pandemic and to develop future pandemic strategies.

Methods: In the context of COVID-19, a review of surgical societies' and government agencies' websites, as well as current literature, was done to discover recommendations for plastic surgery operations. Our plastic surgery problems have been divided into four areas, with guidelines developed for each.

Results: This pandemic demands modification in clinical practice and transformations are recommended in outpatients and peri-operative settings to minimize the potential risk of disease transmission. Prioritization methods, operating room atmosphere, health care personnel safety, and preoperative patient evaluation are all covered by consensus standards for Plastic and Reconstructive Surgery. Operation theatre should be modified to minimize the disease transmission. PPE use is marked critical for all health care personals working in emergency settings. Preoperative assessment should be a critical component of management strategy.

Conclusion: Since COVID-19 is predicted to resurface, doctors must weigh the risks and benefits of each operation in relation to essential patient care, COVID-19 spread reduction, and health-care worker safety. The plastic surgeon will be guided by scientific evidence-based standards that include conscious decision-making in emergency and non-urgent patients, OR changes, PPE usage, and preoperative screening tools.

Keywords: Safety guidelines, plastic surgical procedures, COVID-19

INTRODUCTION

After identifying an outbreak of a novel and very infectious coronavirus COVID-19 infection in Wuhan, China, the World Health Organization designated the disease a pandemic on March 11th, 2020[1]. As of August 12th, 2020, there have been 20,592,470 verified COVID-19 cases globally, including 74384 deaths and 285,921 cases in Pakistan[2]. Due to the risk of disease transmission from asymptomatic patients[3,5] and even slightly symptomatic individuals, case identification and isolation procedures must be tough to implement[3]. Hospitals have been overwhelmed with COVID-19 patients as the number of persons afflicted with the virus has skyrocketed. According to the American Society of Plastic Surgeons, American College of Surgeons, American Medical Association, and Centers for Medicare & Medicaid Services, no optional treatments were identified by plastic surgeons in the United States in March 2020[4–6].

In this environment, practically all surgical specialties have adjusted their operating strategy in an attempt to offload the health-care system owing to a lack of manpower/facilities and to restrict viral propagation. Clinicians rearranged their schedules to prioritise urgent/emergent and non-deferrable situations. Prioritization of patients should be determined on a balance of patient care, HCP protection, COVID-19 spread mitigation, and resource conservation.

The goal of this study is to gather and examine existing recommendations that provide criteria for case prioritization and perioperative care based on current data and literature, so that plastic surgery practices may be summarized during the COVID-19 pandemic. It is probable that the tactics mentioned in this article will evolve as additional data becomes available.

MATERIAL AND METHODS

A thorough search was conducted on the websites of surgical and medical associations, as well as government bodies and newly published literature. Up till August 12th, 2020, MEDLINE, PubMed, Embase, and Google Scholar were searched. The phrases pandemic,' 'coronavirus,' 'COVID-19,' and 'surgery,' plastic surgery, or' surgical,' were searched alone or in combination. In addition, key phrases connected to the issue were searched on Google. A study of recently available literature was conducted in order to find COVID-19 and plastic surgery technique suggestions. Full-text guidelines for possibly relevant documents were retrieved in order to apply the inclusion and exclusion criteria. In this study, articles and recommendations in English were included that reported practical suggestions on operational and perioperative treatment during pandemics. Permission was granted by IRB.

We included guidelines regardless of their scientific level or production process due to the scarcity of high-quality information on COVID-19 and the fast emergence of the pandemic. Duplicate articles, articles written in a language other than English, editorials, and comments were all eliminated. Plastic surgery recommendations and remarks were examined in terms of elective, oncologic and emergency operations.

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RESULTS

During the pandemic, the surgical settings have to be structured as an essential measure for precaution. Recommendations on the time of intervention have been suggested in literature and according to data reported. The urgency and impact of surgery towards prognosis of the patient is a vital determinant. Surgeries that are scheduled should be carefully thought though.

Selectively definitive reconstruction procedures should be deferred while semi-urgent reconstruction along with emergency cases like trauma, burns and malignant lesions should be continued (Fig. 1). Highly malignant cases like high risk SCC need to be treated immediately as the delay can lead to progression and distant metastasis[7,8].

Health care personnel (HCP) working on frontlines involved in triage, evaluation and the surgical plan of the patient are at high risk of contracting Covid-19 and hence it is critical that the thorough assessment and screening for COVID-19 is done prior to surgery[9,10].

Patients who test positive for HIV should be operated on by a team committed to their treatment in specially designated operating rooms[11,12,13]. PPE (Personal Protective Equipment) is now mandatory. All affirmative scenarios should be handled by a

COVID OT. In our setup, a typical operating theatre is expected to be at positive pressure in proportion to the surrounding air. These operating rooms (OR) should be converted to negative pressure rooms with frequent air changes to quickly lower virus load within the OR (25 per hour).

These efforts had two goals: to limit the risk of perioperative viral transmission among healthcare personnel by effective use of PPE and a screening programme, and to make it easier to care for patients with COVID-19 who needed prompt surgical intervention.

This strategic approach helps not only to limit the spread of the virus but also promotes the effective use of institutional resources as due to the pandemic, Intensive Care Unit (ICU) facilities are overburdened[14,15,16,17].

DISCUSSION

Keeping in mind the current circumstances and expected surge of COVID-19 in future, modification in clinical practice and transformations are recommended in outpatients and peri-operative settings in order to minimize the potential risk of disease transmission. It is absolute necessity of time to modify our treatment strategy and to bring new advances in operative protocols. New protocols are to be set as the guidelines for future. Safety of health care personals is a prerequisite part of these guidelines along with proper preoperative screening program.

Decision making in plastic surgery cases: All elective surgeries were suspended worldwide at the commencement of the current COVID19 outbreak. According to the American Society of Plastic Surgeons, American College of Surgeons, American Medical Association, and Centers for Medicare & Medicaid Services, no optional treatments were identified by plastic surgeons in the United States in March 2020. 4–6. In the event of a pandemic, making informed decisions about what to do and when to do it is critical. Early data from China reveals that patients getting elective surgery during the asymptomatic incubation period of COVID-19 had a high death rate of 20.5 percent, indicating that the treatment should be adapted to the severity of the disease18. The procedures that must be scheduled should be carefully considered. Highly malignant instances, such as high-risk SCC, must be treated very away to avoid progression and distant metastasis.[7,8]

OR modification: A COVID OT should be set up to handle all affirmative situations. Because it is not possible to construct a new OT for COVID, particular air flow and ventilation needs for existing OTs should be made feasible so that they may be converted to COVID OTs. All COVID positive patients should be operated on in specialised operating rooms with a specialised team.[19,20,21] Positive-pressure environments enhance viral transmission[19], thus operation rooms must be adjusted to negative-pressure flows. A high rate of air changes, such as 25 per hour, is also useful in reducing disease transmission.[18] A separate air handling unit, as well as a ventilation system with an integrated high-efficiency particulate air filter[18], to be installed in the COVID OT. Because the viral virus may live for long periods of time on environmental surfaces, it's necessary to change standard cleaning procedures.[22,23,24] The OR environment should be changed, such as reducing the amount of personnel participating in the operation, restricting staff mobility in and out of the OR, and allowing enough time between procedures[25].

Evaluation of Patient: It is of utmost importance that a testing protocol should be adapted just like screening for Hepatitis B and C exits in our region. The patient's COVID-19 status should be checked as part of the infectious illness screening.[9,10] All the patient should be evaluated for COVID-19 status prior to the surgery [9,10]. In order to execute this effectively a separate area in the hospital or health facility should be allocated where the patient is given a questionnaire to enquire about his/her symptomatic presentation to rule out a covid-19 clinical picture. Screening tests should be done in suspected cases. Positive patients should be cared for in specific rooms by a staff devoted to their needs[19,20,21].

Use of PPE: All health professionals working at Triage should wear adequate PPE and conduct a thorough physical evaluation on all patients. Regardless of COVID-19 status, practitioners should take all required precautions, as asymptomatic patients are common and testing may be limited. A fitting N95 respirator, eye protection (either goggles or full-face shield), cap, gown, and gloves are the basic standard of care for any worker caring for a patient with proven or suspected COVID-19 infection[25].

CONCLUSION

Because another COVID-19 outbreak is likely, consensus recommendations are offered to guide the plastic surgeon's work during such a pandemic and any subsequent catastrophe. The recommendations were produced with the immediate need for time in mind, and they may be used as a future plan. They are based on sound scientific knowledge from renowned research and regulatory bodies, and they were created with the urgent need for time in mind. OR should be modified to negative pressure rooms with UVC light facility ensuring minimal staff movement and adequate time gap between the procedures. All heath care providers must be equipped with PPE. Preoperative screening for COVID-19 should be assured and any patient who is symptomatic or COVID positive should be deferred and kept in isolation.

The basic conclusion is that we must arm ourselves with the necessary information about the COVID-19 pandemic and equip ourselves to prevent disease transmission.

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Figure 1: management strategy according to type of deformity