

COVID-19 and Practice of Orthopaedic Surgery: Pakistan Perspective.

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ABSTRACT

The Global pandemic of COVID-19 has affected the health care system worldwide. Hospitals in Pakistan are getting overcrowded with COVID-19 patients and healthcare workers are getting infected with virus in increased numbers leading to shortage of hospital workforce. Orthopedic practice needs to be adjusted accordingly to maintain safety of health care workers and conserve hospital resources while maintaining continuity of care to patients with musculoskeletal problems. This article discusses the challenges to Orthopaedic practice in Pakistan in this pandemic and their solutions that may also apply to other specialties.

Keywords: COVID-19, Coronavirus disease, Orthopaedic, Pandemic

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The corona virus disease (COVID-19) started in Wuhan city of China in late December 2019 and within a period of 2 months involved whole of the world and becoming a global pandemic.¹ First case of COVID-19 in Pakistan was diagnosed in late February 2020 and now number has crossed 3 Lacs with 2 % fatality rate till September 2020.² Health care systems worldwide have adjusted their functioning to cope with COVID-19 pandemic and conserve hospital resources while ensuring the continuity of care to patients and protection of medical staff and patients.³ This pandemic has produced many challenges in the selection of patients and care in dealing with patients who are suspected or confirmed COVID-19 positive in Orthopaedic surgery.⁴

Orthopedic surgeons though not considered at front line in fight against COVID-19 pandemic like infectious diseases specialists, emergency medicine physicians and intensive care specialists but as part of the larger healthcare system they have very important role to play in fight against this pandemic.⁵

Cases of trauma constitute major bulk of Orthopedic patients followed by acute infection who seek urgent Orthopaedic care during this outbreak.⁶

This pandemic has posed significant challenges to healthcare system all around the world and practice of Orthopaedic surgery like other fields has also been affected significantly.³ As the number of COVID-19 cases started to rise in March 2020 in Pakistan, countrywide lock down was declared and all places of public gatherings were closed.⁷ Outdoor departments of public sector Hospitals also got closed and all elective surgeries got cancelled. Number of trauma cases due to road traffic accidents also decreased due to shut down of public transport.⁸ Later in May 2020 due to economic crisis lock down was eased by Government which resulted in more number of patients infected with COVID-19 and also more trauma patients resulting from road traffic accidents.⁷ Our hospitals started to get overburdened due to increasing COVID-19 patients and became short of beds and hospital resources. With increasing

number of cases in country, number of healthcare workers infected with corona virus also increased.⁸ There was a fear of contracting Covid-19 infection among surgeons and operating room staff and some urgent surgeries were postponed which led to suffering of all patients including patients with musculoskeletal problems.^{8,9} Though currently number of COVID-19 patients is on declining but second wave is expected in future if there are delays in vaccine production.⁹

Many Orthopedic surgeons started online clinics in Pakistan but that had benefited a few people only since most of our patients are not familiar with online clinic system. Moreover some patients especially who live in remote areas do not have smart phones, laptops or internet connectivity to get benefit from online clinics. Clinical examination of patients which is very essential step in diagnosis of patients with musculoskeletal problems is missing in online consultations and could adversely affected patient outcome.¹⁰ If this pandemic continues for more than a year it is anticipated that Orthopaedic patients in our country will suffer significant morbidity due to delay and improper treatment.¹¹ The major concern of hospitals during this pandemic is the shortage of medical resources such as in-patient beds, ventilators, personal protective equipment(PPE), and risk of exposure of healthcare providers and patients to the COVID-19 virus.¹¹

As per World Health Organization this pandemic is not going to end soon and we have to adapt to the current situation.¹² Orthopedic surgeons also need to adapt their practice in current scenario. In this current crisis it is necessary to prioritize the patients who need urgent care so that medical resources should be conserved.³ Adaptation in Orthopedic surgery practice is mainly guided by clinical emergency, protection of patients and health-care workers, and conservation of hospital resources.⁵ Re-organization of health care system with creation of separate Orthopaedic hubs during this crisis can help to improve the quality of care to patients with musculoskeletal disorders and reduce the risk of overload in general hospitals.¹³

Strict adherence to guidelines proposed by World Health Organization for use of personal protection equipment and environmental hygiene including frequent hand washing increases the safety and minimizes the risk of infection in Orthopaedic practice.¹⁴ Orthopaedic Surgeons should ensure adequate care is being provided to patients in the pre-operative, operative and post-operative period while making every effort to minimize the risks of

infection with COVID-19 virus to the patients and attending health care workers.¹⁵ All patients should get triaged at hospitals entrance. Patients having signs and symptoms of corona virus or history of close contacts with corona positive patients should be referred to special COVID-19 units. Use of masks should be made compulsory for every patient and attendant entering outdoor and emergency departments.¹⁶ No more than one attendant with one patient should be allowed to enter the hospital.⁵ Hospital administration should make sure availability of hand sanitizers and wash basins for hand washing in outdoor and emergency departments and ensure decontamination of these areas on daily basis.¹⁵ Social distancing should be followed in waiting area outside emergency and outdoor departments. Patients who need urgent or early Orthopaedic care should be attended at the earliest possible setting like patients of trauma and aggressive tumors to prevent significant morbidity. Pain-relieving measures such as intra-articular corticosteroid injections in patients with early osteoarthritis and selective nerve root blocks in patients with radicular back pain should be considered.⁵ However Corticosteroid injections should not be used in suspected or confirmed cases of COVID-19 due to risk of depression of immune system that may prove fatal for the patient.¹⁷ Use of platelet rich plasma and stem cells can be considered to alleviate pain in cases of early knee and hip arthritis.¹⁸ Conservative management of fractures by casts and braces should be applied wherever possible unless surgery is an absolute indication like compartment syndrome and femur neck fracture in young patients.¹⁹ Duration of outpatient follow-ups should be prolonged in elective cases to prevent overcrowding in outpatient department.⁶ Online clinics should be continued and awareness should be given to patients regarding online clinics to decrease the load on outdoor departments.¹⁰

Elective cases like hip and knee replacement, spinal deformity corrections and paediatric elective surgical procedures who can wait should be postponed.⁵ These patients may have asymptomatic COVID-19 infection and their surgery may not only puts the whole staff of operation theatre under risk but may also cause second hit to their underlying silent infection. Patients who are infected with COVID-19 are reported to have higher incidence of morbidity and mortality after surgery. Therefore patients with elective problems should wait till the infection rate declines significantly.²⁰

Surgeries in operating theatres with negative pressure ventilation facility are recommended.²¹

Number of staff should be minimized in operation theatre and unnecessary people should be kept away from operation room.²² Operative time should be reduced whenever possible.⁵ Surgeons, Anesthetists and staff members involved in surgery should use personal protective equipment(PPE) including N95 masks.²² Use of aerosols generating procedures like Power drills, saws, pulse lavage and intramedullary reaming should be minimized or to be performed with extra care.²³ Anesthetic procedures should be performed with extra care, as there is risk of potential spread of infection from patient's mouth.²⁴ Whenever possible local or regional anesthesia should be preferred to general anesthesia.²² Patients however, should wear surgical mask when surgery is carried out in regional anesthesia.²⁵ Post-operative rehabilitation should be taught during hospital stay and patient should follow that protocol at their home.¹⁶ For patients undergoing emergency or urgent surgery PCR testing for COVID-19 before the procedure should be done. Negative result however should not replace the safety measures in operation theatre as there is 30% risk of false negative results.²⁵ Moreover patients may infect during waiting time of test report. Positive COVID-19 patients requiring emergency Orthopaedic surgical procedures should be given standard care of treatment rather than refusing them in fear of COVID-19 infection, while ensuring safety of hospital staff. ²⁶Day care cases like arthroscopy and some soft tissue procedures which require hospital stay of less than 24 hours should be allowed to continue if the hospital resources allow as these cases put a minimum burden on health care resources.⁵

CONCLUSION

The COVID-19 pandemic has posed an unprecedented challenge for healthcare systems and clinicians around the world. Orthopedic surgeons need to adapt to current situation of pandemic COVID-19 infection while ensuring continuity of care to patients with musculoskeletal problems and maintaining safety of health care workers. Patients with emergency and urgent Orthopedic problems should be provided with standard care in COVID-19 pandemic while keeping safety of healthcare personals. Conservative management of fracture by casts and braces should be revised and made applicable wherever possible. Online clinics, shorter hospitals stays, prioritizing patients as per their urgency and precautionary operative measures will not only avoid infection spread but reduce overall burden on our hospitals.

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