



Surgical Protocols Before and After Covid-19 - A Retrospective Study

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ABSTRACT

Objective

The goal of the current investigation is to identify any modifications in surgical procedures and protocols that may have occurred as a result of the COVID-19 epidemic.

Materials and Methods

It is a retrospective analysis done at Shree Krishna Medical College Muzaffarpur. Therefore, all patients undergoing any type of adult (> 18 years old) surgery between 1st February 2021 and 1st August 2021 were included in order to document the beginning of the clinical surgery response to the pandemic.

Results

582 surgical procedures were performed within the same time period in 2019, a 32% decrease in surgical activity.

Conclusion

Since the COVID-19 pandemic began, hospitals all throughout the world have conducted significantly fewer procedures, particularly elective/non-urgent surgeries. Since the virus has become almost universally endemic, the majority of surgical protocols used in healthcare facilities have essentially not changed.

Keywords

COVID-19; surgical guidelines; surgical practice; surgical protocol

INTRODUCTION

A pandemic was declared in March 2020 due to the coronavirus disease 2019 (COVID-19), which first surfaced in late December 2019 and has since killed millions of people [1]. The COVID-19 pandemic had a negative impact on all areas of healthcare due to an

excess of contagious people and a recently identified illness [2]. It was impossible for hospitals and other medical facilities to undertake a variety of treatments and procedures while still ensuring the wellbeing of the patients and staff because of the overwhelming number of sick people exhibiting a variety of symptoms and indicators [3-5]. A global call to delay treatments therefore seemed to be necessary for the largest number of persons [6, 7].

The patients who required surgical care as well as the surgeons were significantly impacted by the outbreak. To offer treatment for patients with surgical disease, patients and surgeons must have a special and personal relationship because telehealth cannot replace this interaction and contact [8]. The surgical workforce thus faced different challenges from non-surgical specialists during the COVID-19 epidemic.

A few of the main topics covered include the best ways to safeguard medical staff and patients, the capacity to effectively manage the delivery of healthcare services, the negative effects of diseases on patients, the financial toll that the pandemic will place on health care systems, the management of the inadequate staffing, the impact on education, investigations, and research advancement, and the psychological strain on all parties involved. One specific reality that hasn't changed, both before and after the epidemic, is the necessity of a fit and productive surgical workforce in order to deliver surgical care. All medical professionals must be properly secured in order to do this. Numerous medical systems experienced issues in the early stages of the pandemic as a result of a lack of sufficient protective gear. Given that the new coronavirus has gone endemic, the ability to protect the workforce has

improved along with supply chains and equipment accessibility. The benefits of taking widespread pandemic preparedness have been proven through extensive study investigations. In order to achieve this, it was necessary to maintain a safe physical distance from patients whenever possible, use a mask that fit securely over one's nose and mouth, often wash one's hands, wear gloves while engaging with patients, regularly clean surfaces, and wear eye protection throughout all patient interactions [9].

As the virus has been contained, businesses worldwide and in the healthcare industry have been gradually returning to normal. Resuming surgery was one of the initial steps in this return to normal because numerous patients had endured protracted delays [10]. As a result, surgeries have gradually started to resume in various hospitals, and more invasive treatments are now carried out all over the world. By continuing to relax lockout restrictions and reducing the exponential increase of the viral propagation and accompanying mortality, a long waiting list in various surgeries would be predicted [11,12]. Evidently, there is no end in sight to this pandemic, and the virus will continue to rule the medical industry. There will be a trade-off between the risk of surgical intervention during the pandemic and additional delays or cancellations given that specific steps appeared to have been taken for the safety and protection of the patients. Due to the adjustments made by hospitals and healthcare facilities around the world as a result of the pandemic and the stress it placed on surgeons, physicians, and carers, alternative surgical practises and tactics have been adopted.

The goal of the current investigation is to identify any modifications in surgical procedures and protocols

that may have occurred as a result of the COVID-19 epidemic.

MATERIALS AND METHODS

It is a retrospective analysis done at Department of Surgery, Shree Krishna Medical College Muzaffarpur. Clinical services, however, had already begun strategizing and responding to the crisis, had already treated a number of patients with COVID-19, and had essentially suspended all elective surgery. Therefore, all patients undergoing any type of adult (> 18 years old) surgery between 1st February 2021 and 1st August 2021 were included in order to document the beginning of the clinical surgery response to the pandemic. The ethical clearance was taken from the ethical committee in Shree Krishna Medical College. There was no standardised national COVID-19 swabbing protocol in place, and different facilities used different diagnosis protocols. Most patients

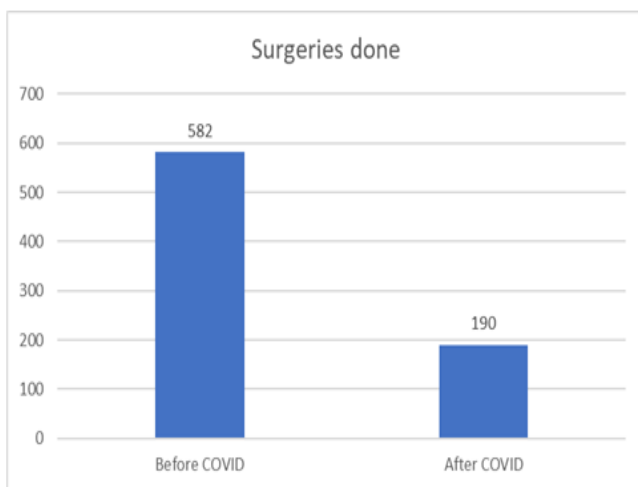
relied on a single negative swab test between one and seven days before surgery. At the time, nobody underwent CT scanning. Therefore, a diagnosis of COVID-19 for the purposes of this study was defined as having a positive swab test or, in cases where no test was obtained, being clinically suspected at any point before to or during surgery during the index hospital admission. This was consistent with the way things were done at the time.

RESULTS

Analysis is based on 190 patients who had surgeries between 1st February 2021 and 1st August 2021. A COVID-19 diagnosis was made in 53 patients (27.9%), either pre- (n = 17) or post-operatively (n = 35), with one patient's diagnosis being missed. 582 surgical procedures were performed within the same time period in 2019, a 32% decrease in surgical activity.

Table1: Comparison of surgical protocol before and after COVID-19

	Before COVID	After COVID	P value
Surgeries done	582	190	0.405



Graph 1: Comparison of surgical protocol before and after COVID-19

DISCUSSION

For surgical treatments, especially those requiring the performance of ocular procedures in both the operating room and the recovery area, significant equipment and resources must be dedicated.

Therefore, it was sense to limit operational capabilities to only emergency measures in the early phases of the pandemic. Cetinkaya et al. [13] looked on the demographics of ophthalmic outpatients and cataract surgery hospitalisations in an ophthalmology clinic for tertiary care centre from April to June 2020 to compare the pandemic and pre-pandemic periods. The study conducted by Soytaş et al. [14] to compare the impacts of COVID-19 on urological practise was published. The number of weeks used to measure the variations in outpatient exams, non-surgical treatments, and surgeries during the eight weeks before and after the pandemic. There were no discernible differences in the mean ages of patients who underwent surgery before and after March 11.

The quantity and variety of neurosurgical patients treated at two teaching hospitals in Egypt during the pandemic's restricted measures were investigated in a study [15]. In a review report, Grani et al. [16] examined the period from March 2019 to March 2020 in order to determine how the disruption of routine activities altered the characteristics of differentiated thyroid cancers that were found at the end of the pandemic.

In their study, Spurlin et al. [17] assessed the COVID-19 pandemic's effects in emergency rooms (ER) of obstetrics-gynecology (OC-GNY) departments at a New York-based institute. The findings show that during the pandemic, obstetric (OC) procedures remained stable but gynaecology (GNY) surgeries and ER visits fell. In a study where he compared the

volume of orthopaedic procedures carried out at a private facility before and after the COVID-19 outbreak, Cengiz [18] documented his findings. The study's main outcome metric was the variation in the number of orthopaedic surgeries between the pre-COVID-19 and COVID-19 eras. Between the pre-COVID-19 and COVID-19 eras, there was a significantly lower number of surgeries overall (613 vs. 526), arthroplasty procedures (132 vs. 88), emergency paediatric surgery (82 vs. 49), and tumour surgery (44 vs. 27).

In their study, the COVID-19 pandemic, which lasted from March to December 2020, and a comparable pre-pandemic period, which covered the same time period the year before, were both included. The number of patient admissions during the pandemic decreased from 479 to 254, a 46.97% decrease from the number during the pre-pandemic period.

Demir et al. [19] examined the elective surgeries for the upper gastrointestinal system, abdominal wall hernias, gallbladder surgeries, and kidney transplants performed between September 2018 and September 2021 in order to assess the impact of COVID-19 on these surgeries both before and after the pandemic. Aashna et al.'s study [20] examined how operational guidelines changed over the course of the pandemic and how these changes continued to influence patient care and services as COVID-19 lessened and gradually became an endemic entity. The need for additional research in the context of the novel virus that is endemic in today's world, however, makes it imperative to address the knowledge gaps in the field and identify the variables that may be indicative of the COVID-19 problems that surgeons/clinicians face while performing surgeries (both elective and non-elective).

CONCLUSION

Since the COVID-19 pandemic began, hospitals all throughout the world have conducted significantly fewer procedures, particularly elective/non-urgent surgeries. Since the virus has become almost universally endemic, the majority of surgical protocols used in healthcare facilities have essentially not changed. While the pandemic required hospitals to stop providing a number of helpful therapies, it also gave clinicians an opportunity to focus on the benefit-risk balance of surgical choices.

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