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A SURGICAL AUDIT OF GENERAL SURGERY CASES IN A TERTIARY CARE HOSPITAL AND THE IMPACT OF COVID-19 ON THE SAME

General Surgery

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ABSTRACT

BACKGROUND: After the COVID-19 pandemic was declared on March 11, 2020 by the World Health Organization (WHO), routine clinical and surgical practices were affected, including General Surgery services. We aimed to compare how our General Surgery department was affected during this time period of Covid, we have included various parameters, we have also statistically shown how the elective and emergency services were before the Covid outbreak and during the COVID-19 pandemic in our institution.

MATERIAL AND METHODS: We retro spectively compared General Surgery practices, including elective, emergency and septic surgeries in a surgical unit of Sir JJ Group of Hospitals over a span of 3 years (April 2018 - March 2021), including the era before and during Covid.

RESULTS: The frequency of all the surgeries performed during the pandemic was lower as compared to previous two years before the pandemic in our study, also there was a significant drop in the number of laparoscopic surgeries.

CONCLUSION: The General Surgery practices in our institution have been drastically affected by the COVID-19 pandemic. This setback needs a definite strategy to be formulated to decrease the morbidity and mortality from the neglected elective surgical cases, the real risk-benefit ratio must be met before operating such cases.

KEYWORDS

COVID-19; Pandemic; General Surgery; Surgery Residency; Surgical audit

INTRODUCTION :

On January 30, 2020 World Health Organization (WHO) declared coronavirus a public health emergency of International concern (PHEIC)[1]. An extremely high number of cases were detected over the whole world and hence Covid-19 was declared a pandemic [2]. A countrywide lockdown was announced by the Indian government starting from the midnight of March 24 2020 for 3 weeks, its main purpose was to slow down the spread of Covid-19 infection in the country as the number of people testing positive for Covid-19 infection was increasing day by day[3]. However, the cases continued to rise and country recently experienced a second wave of Covid in 2021. In the covid pandemic outpatient clinics and elective surgeries were likely to have taken a beating. Most of the hospital resources were redirected towards availing face masks and personal protective equipment (PPE), elective operative work was terminated.

Our hospital is a tertiary referral hospital that primarily serves urban as well rural population coming from all over the Maharashtra, as well as different parts of the country. Accordingly, our hospital was declared as a referral hospital for the management of patients with COVID-19 during the pandemic by a public emergency edict. Hence two hospitals St George and Gokuldas Tejpal Hospital which are a part of Sir JJ Group of hospitals were made dedicated Covid centers. Several studies showed that the COVID-19 pandemic affected surgical practices services all over the world.

This is an effort to show the impact of Covid 19 over the General Surgical Practices by analyzing the number and type of surgeries affected (both elective and emergency surgeries) before the outbreak and during the COVID-19 pandemic in a unit of General Surgery in our institution.

AIM:

The study aimed to study the impact of COVID-19 on general surgical practice in a unit of General Surgery Unit of Grant Government Medical College and the future implications of the pandemic.

MATERIALS AND METHODS:

Data Collection:

Data of General Surgery practices was collected, including elective, septic, emergency surgeries and outpatient department cases over a span of 3 years (April 2018 - March 2021) of a single unit from Medical Records Department of Grant Medical College & Sir J.J.Group of hospitals, Mumbai. This included the era before Covid and during Covid so that changing trend could be understood and compared. Average of two years of pre covid era was compared to one year of Covid era.

COVID-19 assessment

The diagnosis of COVID-19 was done using real-time polymerase chain reaction (RT-PCR) in the department of Microbiology in our institution itself.

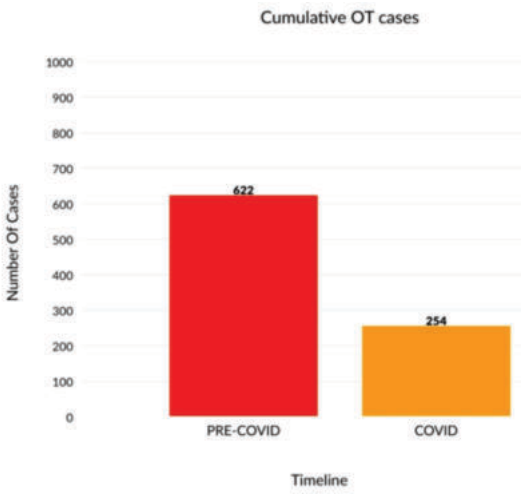
Meanwhile the RTPCR test report came, patient was managed in transit ward and then if the report was negative further assessment and management was done in JJ hospital itself, otherwise if the patient turned out positive, he/she was shifted to St George or GT hospital for the management of Covid 19.

RESULTS :

The following table gives a brief statistic about the trend of elective, septic, emergency cases performed from March 2018 to April 2021 in a single surgical unit of Sir JJ Hospital.

Table No 1

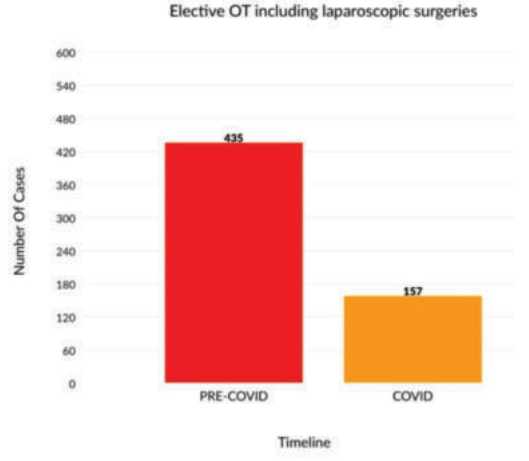
	(1st april 2018 To 31st March 2019) (a)	(1st April 2019 To 31st March 2020) (b)	Average Number Of Cases Done In Pre-Covid ERA(A+B)/2	(1st april 2020- 31st May 2021) Covid ERA (c)
Elective OT	487	384	435	157
Septic OT	128	139	133	68
Emergency OT	50	59	54	29
Total	665	582	622	254



Bar graph No 1

There was a 59.16% decrease in the number of total surgeries in Covid phase as compared to the pre-Covid phase in our surgical unit.

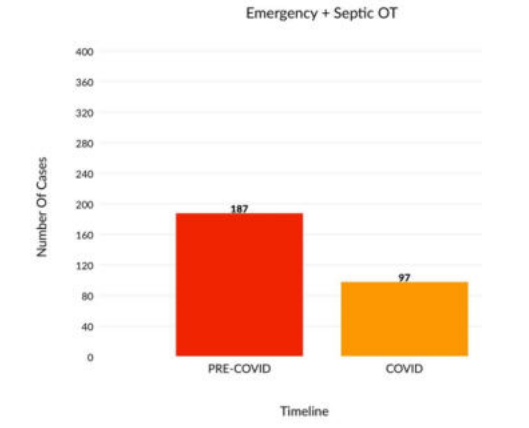
1) Elective surgeries including Laparoscopic surgeries



Bar graph No 2

There was a 63.9% decrease in the number of elective surgeries in the Covid Phase as compared to the pre-Covid phase in our surgical unit.

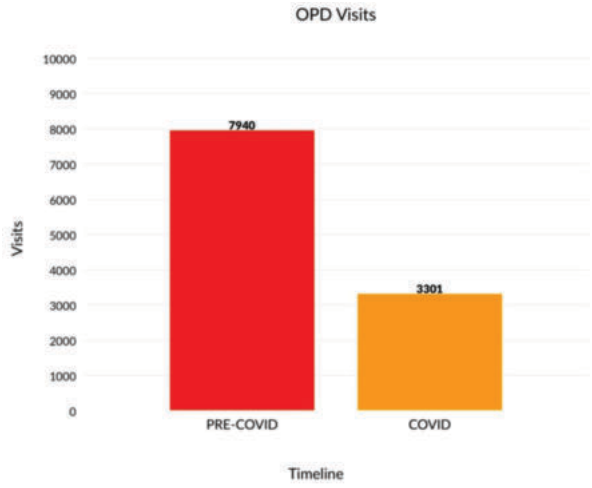
2) Emergency and Septic Cases



Bar graph No 3

There was a 48.12% decrease in the number of total combined Emergency and Septic cases in the Covid phase as compared to the pre-Covid phase in our surgical unit.

3)OPD visits

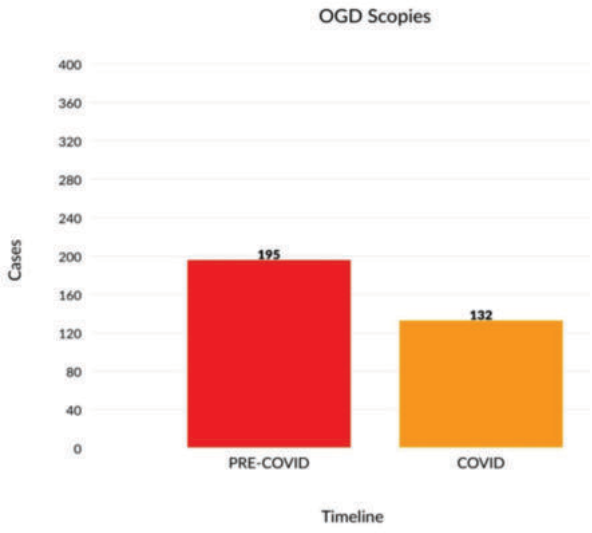


Bar graph No 4

Decline in the outpatient services during covid time

There was a 58.42% decrease in the number of outpatient visits in the Covid phase as compared to the pre-Covid phase in our surgical unit.

4)Ogdscopy



Bar graph No 5

There was a 32.30% decrease in the number of OGDscopies performed in the Covid phase as compared to the pre-Covid phase in our surgical unit.

DISCUSSION:

In our present study we were able to demonstrate the decrease in elective, septic and emergency surgeries particularly in the General surgery department of our institution. This decreasing trend was particularly due to the need to temporarily cancel all our elective surgeries in order to divert our hospital workforce to cater to the increasing surge in COVID-19 cases. All over the world the same policy was applied where there was increase in COVID-19 cases. The oncological surgical services for 'time-sensitive' and urgent cases whose prognosis could become worse or the quality of life of the patient may be affected were carried out on an elective basis. Also, the decrease in elective surgical cases might also be due to the fact that people were worried to visit hospitals as there was a risk of nosocomial transmission of infection.

Considering the increased risk of COVID-19 infection following changes were done in our institution-

1. Non urgent elective surgical cases were cancelled temporarily in order to increase the capacity of the hospital for treating COVID-

19 cases.
2. Physical meetings and academic post graduate activities were cancelled and meetings were held on a virtual platform. (For eg. Zoom)
3. It was compulsory to wear a face mask and other personal protective equipment while visiting the hospital.
4. Staffers were asked daily to report if they were having any symptoms of COVID-19 and were advised to get tested.
5. There were very strict restrictions on number of relatives vising the hospital premises.
6. All the staff nurses and doctors were asked to get quarantined for 7 days after their covid duties.
7. HCWs were advised to consume highly nutritious diet containing multivitamins and minerals.
8. The hospital workforce from all other departments including General Surgery was diverted in treating COVID-19 patients.
9. Transit wards were created for the patients getting admitted in our department, after their COVID-19 reports came negative or positive they were transferred to routine wards or were shifted to COVID care facility respectively.
10. Doctors and nurses were rotated between COVID and non-COVID care, to reduce their exposure to the COVID 19 virus.
11. It was made compulsory to wear PPE kits before entering COVID wards.
12. Proper care was taken while performing laparoscopic surgeries like to prevent the leakage of gases from the side of the trocars, decreasing the pressure of pneumoperitoneum.
13. Patients testing positive for COVID, their elective surgery was deferred for at least 6 weeks after they turned negative considering the increased peri-operative mortality in these cases.

In our hospital all the patients who got admitted were subjected to Covid-19 testing. According to one study conducted 30-day mortality rate was 23.8% and there were pulmonary complications seen in 51.2% cases who had perioperative Covid-19 infection [4]

As the covid wave declined in August-September 2020 period, even in our institution, the elective surgical cases were started at less than normal frequency.

Considering the halting of operative surgical work, it has affected the General surgery residents adversely. This is likely to affect the operative surgical skills and clinical acumen of the residents, the implications may be far reaching. The draught in surgical learning can be turn over by utilizing each surgical case to its maximum capacity, by recording the video and showing it to all the residents in the department. Simulation based learning should be advocated. Endo trainers should be utilized to improve dexterity and fine surgical skills of the residents.

Surgical workshops should be held to decrease the damage this COVID pandemic has caused to the hands-on learning experience. CME programs should be conducted online to keep the learning opportunities continuing for the surgical residents. This pandemic has opened new avenues for academic research, it has given time for residents to focus on good paper writing and publication of research projects.

The American Board of Surgery (ABS) has decreased the minimum surgical cases required to be performed by residents before getting the degree. However, India doesn't have any standard protocol like this for the graduating surgical residents, should a solution be sought for this by increasing the residency period by a few months is a thing to argue. The current batch of Surgical residents are worried about their confidence to become consultants and their ability to conduct independent surgeries in the future.

Moreover, the General Surgery seats had increased from 14 to 27 in our institution in the year 2017.Since the number of surgeries performed is much less in proportion to the number of residents present in the department, it is likely to affect the surgical training of the residents and might discourage the upcoming batches to choose general surgery as a branch in our institution.

Also considering the medical students their exposure to surgery is limited, considering these fewer medical students may choose surgery as a career in the future.

Although several studies showed that the COVID-19 pandemic affected General surgery services, our study has the following strengths: we specifically analyzed the number and type of surgeries affected by the outbreak vs. described the effect of the pandemic on General surgery practices in our institution. Notably, our findings are limited to a single unit of General Surgery in our institution. These facts should be considered during the interpretation of our study.

Considering the COVID pandemic these are testing times for the surgical community in general. The hospital administration and government bodies should devise new strategies to handle this situation tactfully. Our surgical community should learn to accept these changes in view of the greater good of the society.

The findings of our study suggest a comprehensive strategy should be devised either by the hospital authorities, health district committees or regional General surgeons' association to avoid loss of life due to neglected elective surgeries during the Covid pandemic, including finding out a real risk-benefit ratio and going ahead in operating with complete precaution.

Many of the changes that have been instituted during the COVID-19 pandemic are the new reality, and the surgical community must learn to evolve with and accept these changes. The future of the medical profession depends on it.

CONCLUSIONS

The General surgery practices in our institution have been severely affected by the COVID-19 pandemic, including elective, emergency and outpatient services. There is a definite risk that these patients might present at a later date with more advanced disease, so a definite alternative should be sought where there is no need to postpone elective surgeries. The best way here looking forward is to resume surgeries with necessary precautions and vaccinating as many people as possible at the earliest.

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