

Our Observations about the General Surgery Services Provided by Bombay Hospital General Surgery Department during the Peak of the COVID-19 Pandemic: A Series of 30 Cases

ABSTRACT

Our observations about the general surgery services provided by Bombay Hospital General Surgery Department during the peak of the COVID-19 pandemic a case series of 30 cases author – Dr. Neil Sheth corresponding authors – Dr. Sanjay Chatterjee, Dr. Rajesh Yadav coauthors – Dr. Amita Sippy, Dr. Mohd Amir, Dr. Atiya Lambe, Dr. Sameer Dehmukh, Dr. Raviraj Chavan, and Dr. Prathamesh Pathrikar abstract: The COVID-19 pandemic is considered as the most crucial global health calamity of the century and the greatest challenge faced by mankind since the Second World War. Besides our day-to-day life and activities, the pandemic has had a major impact on our health care and functioning of hospitals of which the most widely affected subspecialty is that of general surgery. Since the initiation of lockdown in India, there has been a generalized panic amongst surgeons as well as patients leading to a decline in the number of elective surgeries being performed. This case series aims at putting forth our experience of operating during the peak of the COVID era and defying the fear instilled in the minds of surgeons and patients regarding the risk of intraoperative and post-operative infection by the novel coronavirus. We studied a total of 30 cases most of which were emergencies including both open and laparoscopic surgeries. An RT-PCR swab test was done for every patient pre-operative and only those who tested negative were included in the study. However, the swab results were considered valid for 3 days. Results – no surgeon, resident, or staff nurse have tested positive for coronavirus and there has been no post-operative mortality recorded. This is an audit regarding the various interesting and unusual observations, we encountered during the peak of COVID times during, that is, April to June 2020. Keywords: COVID-19 surgery precautions routine emergency.

Key words: COVID-19, Emergency, Routine, Observations, Surgery

INTRODUCTION

The COVID-19 pandemic is considered as the most crucial global health calamity of the century and the greatest challenge faced by humankind since the Second World War. The pandemic has had a major impact on our health care and functioning of hospitals of which the most widely affected subspecialty is that of general surgery. This study is to put forth some unusual observations encountered during the peak of the pandemic by the general surgery department in Bombay Hospital.

Aims and Objectives

1. To enlist the various interesting observations, we encountered during the peak of COVID-19 pandemic
2. To make note of the various complications, both COVID and non-COVID related during the pandemic
3. To state that it is safe to operate during COVID pandemic, if the necessary safety precautions are taken.

METHODOLOGY

We performed 30 cases during the coronavirus pandemic during April–June 2020.

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Study type

Observational study sample size: 30.

Methodology

Retrospective study.

Inclusion criteria

All patients operated or referred to us during April–June 2020.

Exclusion criteria

- The following criteria were excluded from the study:
1. Patients that presented but chose not to get operated and patients that were non-surgical and treated conservatively
 2. Patients that tested COVID positive before surgery.

Types of cases [Figure 1]

Technique of surgery type of cases of the 30 cases performed 28 were emergency surgeries, 1 elective which was a RT inguinal hernia, and 1 was a follicular adenoma of thyroid.

Furthermore, both open and laparoscopic surgeries were performed during this time.

Geographical distribution

Most patients presented from nearby areas as opposed to the usual drainage area of Bombay Hospital due to the strict lockdown imposed. Bombay Hospital has a usual drainage area from the entire state as well as outstate. However, it was seen that patients presented from only localities near marine lines and Colaba until Worli.

COVID status at presentation

All patients that were electively operated were COVID-19 RT-PCR negative at the time of presentation.

However, 12 COVID-positive patients were encountered which were treated conservatively or were too morbid to mobilize to the operating room.

COVID-positive references

Eleven references were received from COVID wards during this time. Of those 11 patients, four presented with severe acute abdomen with guarding and rebound tenderness? Perforation or bowel gangrene. These patients had presented late in the course of the disease and were thus very morbid to be operated. This is five presented with fissures and fecal impaction which was a very common complication in COVID-19 patients due immobilization. Two had hematomas again due to the requirement of heparin injection in COVID-19.

Types of complications [Figure 2]

Patients presented with complications mentioned above that were both COVID and non-COVID related.

It was observed that there was unusually high rate of post-operative fever and DVT during this period post-operative ileus.

Anesthesia

All different types of anesthesia were given safely taking all necessary precautions. Equal number of ga, la and sa cases (general, spinal and local anaesthesia) were performed. It was observed that there was no increased risk of transmission of the virus if proper precautions were taken.

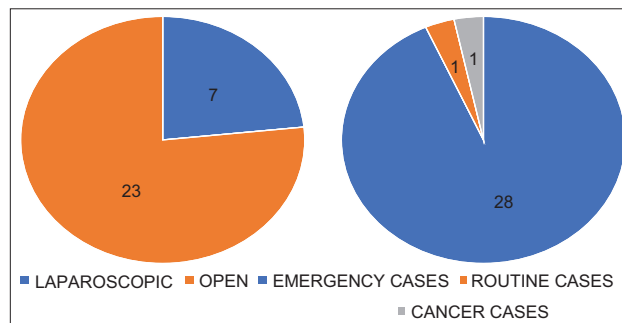


Figure 1: Types of cases

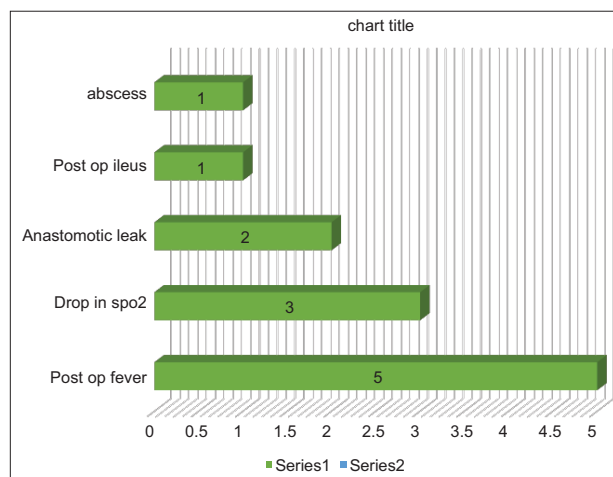


Figure 2: Types of complications

COVID status of doctors [Figure 3]

It was observed that of the 8 doctors involved, including 2 consultant surgeons, 2 consultant anaesthesiologists and 5 resident surgeons, 3 doctors tested positive. All three of whom were residents.

DISCUSSION

During the peak of the pandemic, that is, April–June 2020, most hospitals as well as general practitioners ceased to treat non-COVID surgical patients. Nevertheless, the general surgical department at Bombay Hospital continued to provide emergency services including admissions, conservative management, and surgeries. There were some very interesting observations that we stumbled on during the analysis of patient information in the above-mentioned period.

The observations were as follows:

1. Most patients presented from local areas as opposed to the usual drainage area of Bombay Hospital from far off suburbs as well as other states. This was most likely due to the lockdown imposed which made it difficult for people to travel.
2. Patients with emergent conditions that could not be postponed presented for treatment and all others who could wait stayed away from hospitals^[2,4]

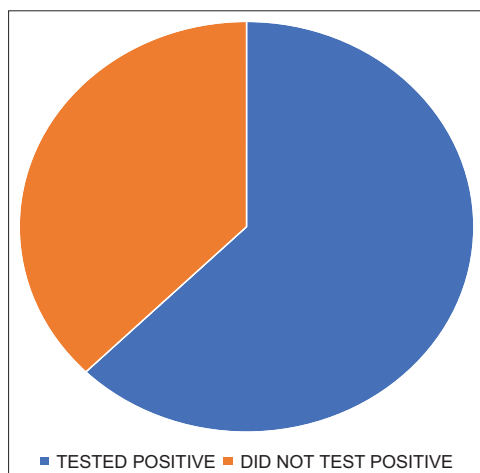


Figure 3: Covid status of doctors

3. Even the patients with emergent conditions presented 5–7 days after onset of symptoms as they tried their best to stay away from hospitals till it was impossible to wait any longer^[5]
4. Almost all patients who presented in emergency were not seen or examined by any doctor or general practitioner before coming to a tertiary center like Bombay Hospital as there were no family physicians available to consult
5. Surprisingly, none of the operated patients were found to be COVID positive by RT-PCR and the test was negative in all patients with post-operative fever barring 1. This as exclusive of the patients who were referred to us from COVID wards or ICU at Bombay Hospital for surgical problems^[5]
6. It is not a surprise that an overwhelming number of surgeries were emergencies as elective patients stayed away [Figure 1]^[2,4]
7. Two very interesting facts were noted. First, some not very common post-operative complications such as pyrexia of unknown origin, DVT, prolonged ileus after laparotomy, and post-anastomotic leaks were seen in relatively large numbers. This was most likely because of late presentation. A possible COVID-19 infection in post-operative period. Second, many patients (more than normal number) required parenteral nutrition as again these patients presented way too late after nutritional depletion had started [Figure 2]
8. None of the operated patients have died though few had to be shifted to the ICU due to fever and breathlessness in the post-operative period. On the other hand, a few acute abdomen patients who presented from COVID ICU died before they

could be teen up surgery leading to believe that surgical complications in COVID had a higher mortality rate.

9. Of the eight doctors who have treated the above-mentioned patients in general surgery, only three tested positive during the course of treatment. But surprisingly, all three were resident doctors living in the hostel. Hence, source of infection could well be proximity to each other rather than directly from patient contact [Figure 3]
10. It was observed that the transmission risk was more or less similar in open as well as laparoscopic surgeries debunking the myth that creating a pneumoperitoneum can facilitate the spread of COVID-19^[1]

CONCLUSION

In this observational study, we have made an attempt to share our experiences in surgical practices during an unprecedented pandemic and lockdown scenario. It is noteworthy that in a crisis situation like the covid pandemic when most of the medical facilities in town either stopped completely or were working on a very low level; the department of general surgery at Bombay Hospital, Mumbai, continued all surgical services uninterrupted and that too with a fair degree of success.

Literature reviewed

- COVID-19 and laparoscopic surgeons – the Indian scenario Dr. Nikhil Gupta and Dr. Himanshu Agrawal (1)
- Elective surgery in times of COVID Dr. A. Dias *et al.*^[2]
- Surgery during the COVID-19 pandemic – a comprehensive overview and perioperative care Dr. M. Al Balas *et al.*^[3]
- Surgical operations during COVID-19 outbreak – should elective surgeries be suspended?^[4] Dr. S. Zarritan *et al.*
- Impact of COVID-19 on surgical practice^[5] Dr. A Al Jabir *et al.*

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