



Surgery

“A COMPARATIVE RETROSPECTIVE STUDY TO EVALUATE THE IMPACT OF COVID 19 ON EMERGENCY SURGERIES DONE IN CHHATTISGARH INSTITUTE OF MEDICAL SCIENCES, BILASPUR, CHHATTISGARH.”

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ABSTRACT **Background:** The COVID-19 disease, also known as the corona virus disease, is an ongoing global pandemic of corona virus 2019 (COVID-19) caused by severe acute respiratory syndrome corona virus 2 (SARSCoV-2). The virus was first identified in December 2019 in Wuhan, China. The World Health Organization declared a Public Health Emergency of International Concern regarding COVID-19 on 30 January 2020, and later declared a pandemic on 11 March 2020. As of 28 May 2021, more than 168 million cases have been confirmed, with more than 3.51 million confirmed deaths attributed to COVID-19, making it one of the deadliest pandemics in history. The virus that causes COVID-19 is mainly transmitted through droplets generated when an infected person coughs, sneezes, or exhales. Covid-19 infection also causes problems for patients who needed emergency surgical services; it is also interrupted mostly due to nationwide lockdown. **Objective:** To evaluate the impact of Covid-19 on emergency surgeries in Chhattisgarh Institute of Medical Sciences, Bilaspur, Chhattisgarh during Covid-19 pandemic. **Method:** This retrospective comparative clinical study is conducted in the department of General Surgery, Chhattisgarh Institute of Medical Sciences, Bilaspur, Chhattisgarh. The 1 year EOT data from 20 March 2019 to 20 March 2020 is compared with the data from Covid-19 pandemic year from 20 March 2020 to 20 March 2021. Frequency tables, comparative charts are used to evaluate and measure the data from the study to describe the impact of Covid-19 on emergency surgery and management. **Result:** 205 out of 569 (36%) patients were females in Pre Covid-19 yr whereas male patients were 64%. During Covid-19 pandemic year also the male patients were predominant i.e. 68% whereas female population was 32%. In Pre Covid-19 yr, 318 out of 569 (55.8%) patients of lower socioeconomic strata came to EOT, on the other hand 33.2% patients were of middle class economy status and only 12% were belonged to upper class. Whereas in Covid-19 pandemic year lower class patients reported was 50% and upper class were 18%. 195 out of 569 (34.2%) patients had undergone Emergency Laparotomy in Pre Covid-19 year whereas 88(15.4%) had ICD done, debridement was done in 13.1%, and suturing was performed in 12% patients. During Covid-19 pandemic year also Emergency Laparotomy was performed predominantly in 38% patients followed by ICD and debridement. **Conclusion:** We observed in our study in both years the male population was predominant, during the pandemic year the patients of upper socioeconomic strata were increased. During both years Emergency Laparotomy was performed predominantly in patients followed by ICD, debridement and suturing.

KEYWORDS : Covid-19, Pandemic, IPD, EOT, Management, Mortality

INTRODUCTION

Since the first outbreak at the end of 2019, the SARS-Corona Virus-2 spread quickly around the world, causing the so-called COVID-19 pandemic, a global public health care emergency^[1]. In the effort to constrain the spread, many countries embraced measures to guarantee social isolation, limiting outdoors activities, and thereby creating the risk of increasing domestic accidents leading to injuries^{[2][3]}. In addition to this strategy reducing healthcare resource utilization for non-emergency activities, significantly increased mortality has been shown in patients undergoing surgery during a COVID-19 outbreak.^{[4][5]} SARS-Cov-2 represents a particular challenge in the operating theatre environment. The virus has been shown to be present in the peritoneal fluid of a patient with known COVID-19 undergoing laparotomy.^[6] It has been detected in the blood and faeces of infected patients, while asymptomatic carrier transmission has also been reported.^{[7][8]} Smoke produced by electrocautery devices and during laparoscopic surgery may cause aerosolization of SARS-Cov-2, increasing the risk of transmission to healthcare workers.^[9] While most elective surgery can be temporarily delayed during this healthcare crisis, patients presenting with acute abdominal illness may still require operative management.

OBJECTIVE:

To evaluate the impact of Covid-19 on emergency surgeries in Chhattisgarh Institute of Medical Sciences, Bilaspur, Chhattisgarh during Covid-19 pandemic.

MATERIAL AND METHODS

METHOD: This retrospective comparative clinical study is conducted in the department of General Surgery, Chhattisgarh Institute of Medical Sciences, Bilaspur, Chhattisgarh. The 1 year EOT data

from 20 March 2019 to 20 March 2020 is compared with the data from Covid-19 era from 20 March 2020 to 20 March 2021. Frequency tables, comparative charts are used to evaluate and measure the data from the study to describe the impact of Covid-19 on emergency surgeries.

RESULTS

This retrospective observational clinical study involved the EOT surgeries data of pre Covid-19 year from 20 March 2019 to 20 March 2020 and data of first year of Covid-19 year from 20 March 2020 to 20 March 2021. This study is conducted in department of General Surgery, CIMS hospital, Bilaspur Chhattisgarh. Data of both years were thoroughly evaluated and studied. The results are as follows:

Gender

205 out of 569 (36%) patients were females in Pre Covid-19 yr whereas male patients were 64%. During Covid-19 pandemic year also the male patients were predominant i.e. 68% whereas female population was 32%, no patients of transgender community was reported. This data revealed that male patients were predominant in both years undergoing emergency surgical procedures

Table 1 Gender wise Distribution of patients

Gender	Male	Female	Total
Pre Covid-19 year	364(64%)	205(36%)	569
Covid-19 pandemic year	242(68%)	114(32%)	356

Socio-economic status

In Pre Covid-19 yr, 318 out of 569 (55.8%) patients of lower socioeconomic strata came to EOT, on the other hand 33.2% patients were of middle class economy status and only 12% were belonged to

upper class. Whereas in Covid-19 pandemic year lower class patients reported was 50% and upper class were 18%. This data clearly stated that during the pandemic year the patients of upper socioeconomic strata were increased.

Table 2 Socio-economic status wise distribution of patients

SES	Lower Class	Middle Class	Upper Class	Total
Pre Covid-19 yr	318(55.8%)	189(33.2%)	62(12%)	569
Covid-19 yr	179(50%)	113(31.7%)	64(18%)	356

Surgical procedure

195 out of 569 (34.2%) patients had undergone Emergency Laparotomy in Pre Covid-19 year whereas 88(15.4%) had ICD done, debridement was done in 13.1%, and suturing was performed in 12% patients. During Covid-19 pandemic year also Emergency Laparotomy was performed predominantly in 38% patients followed by ICD and debridement.

Table 3 Surgical procedure Wise Distribution of patients

Procedure	Emer. Laparotomy	ICD	Debride ment	Suturing	Others	Total
Pre Covid-19 year	195(34.2%)	88(15.4%)	75 (13.1%)		143 (25.1%)	569
Covid-19 pandemic year	135(38%)	71(20%)	42 (11.7%)	28 (7.8%)	80 (22.4%)	356

DISCUSSION

COVID-19 is a rapidly emerging disease, with a continually evolving understanding in the literature. Our data show a significant decrease of 62.5% in the number of patients requiring admission EOT for emergency surgery in pandemic year. This decline is consistent with national data from the Economic and Social Research Institute, which show a decrease in attendance at Emergency Departments in Ireland by 45.4% during the month of March 2020.^[10] Corresponding declines in patient attendances have been reported in emergency departments in the UK and Italy during the COVID-19 outbreak.^{[11][12]} International data on emergency surgical volumes during the COVID-19 pandemic are limited, but similar dramatic declines in the number of patients requiring emergency operations have been seen in Italy and the United States.^{[13][14]} the reasons for the decline in patients presenting with non-COVID illnesses to our institution and internationally are unclear, and likely multifactorial. One proposed hypothesis is that patients are reluctant to attend hospitals for care of non-COVID illnesses because of fear of acquiring COVID-19.^[15] This could account for our finding that while there was a reduction in overall admissions during this period, an increased number of emergency laparotomies were performed. International data support the hypothesis does suggest that a proportion of patients have been reluctant to access healthcare for non-COVID-19 illnesses during the initial phase of the outbreak.^[16]

CONCLUSION

We observed in our study in both years the male population was predominant, during the pandemic year the patients of upper socioeconomic strata were increased. During both years Emergency Laparotomy was performed predominantly in patients followed by ICD, debridement and suturing.

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