

EFFECT OF COVID-19 PANDEMIC ON WAITING TIMES OF PATIENTS FOR ELECTIVE SURGERIES IN LAHORE GENERAL HOSPITAL: A CROSS SECTIONAL STUDY

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ABSTRACT

Background: The COVID-19 pandemic, also known as the coronavirus pandemic, is an ongoing global pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Objectives: To establish whether Covid-19 pandemic adversely affected patients on elective surgeries by increasing gap period between presentation and elective procedure.

Methods: Data for elective surgery lists were gathered from Lahore General Hospital for two years 2019 and 2020. All surgical procedures performed and cases postponed were noted for both years. Then data from year 2020 (Covid-19 era) was compared to reference year 2019 (Pre-Covid era). The patients per list, total patients, their means and frequencies of the most common surgical procedures were calculated separately.

Results: A total of 750 surgeries were included in the study from Covid-19 affected months of 2020 and respective months of 2019. The increased waiting time of patients resulted in an average 38.9% decrease in cases per list in 2020 as compared with 2019. Frequency of elective procedures started declining rapidly with the onset of lock down in the first covid-19 wave from mid-April to early May 2020. This reached a maximum in late May and June due to buildup of more and more deferred cases. In mid-July 2020 and thereafter there were “smart lockdowns” with partial restrictions, but elective surgeries still remained lagging far behind as compared with 2019.

Conclusion: Covid-19 pandemic posed a heavy strain on the health care system with elective surgery waiting times increased by as much as 3-5 times in some cases. Even though the elective surgery turnover was increased by one-fifth as a compensation after imposition of “smart lockdown”. This delay also led to a reported increased morbidity and mortality during the lock down era in 2020.

Keywords: Covid-19 pandemic, 1st wave, 2nd wave, Elective Surgery, Lockdown, smart lockdown.

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INTRODUCTION

Corona virus pandemic adversely affected humanity across the globe during march 2020. Each and every walk of life was affected by the pandemic. Hospitals remained flooded as more and more patients presented with corona virus infection and its complications.¹ The frequency of emergency consultations for surgical conditions was reported to be increased.

Average delay for a patient on elective list was quantified and found to be increased significantly. Reportedly this increased morbidity and mortality took a major toll on postponed elective surgery patients.² This cross-sectional study compared the changes in frequency of elective surgeries during the Covid-19 pandemic in Lahore General Hospital, Lahore.

METHODS

This study was conducted in Lahore General Hospital for two years i.e., year 2019 “the Pre-Covid era” (1st May - 31st Dec, 2019) and year 2020 “the Covid-19 era” (1st May - 31st Dec, 2020). This research included the data on the patients of elective surgeries, collected from the operation theaters and surgical unit-II ward registers. The total number of elective surgeries recorded were 750 (573 for year 2019 and 217 for year 2020). Number of cases performed was also counted for different surgeries i.e cholecystectomies, hernias, perianal diseases and malignant tumors. Patients who were supposed to be kept on elective list but got delayed due to Covid-19 pandemic were recorded and their follow up visit dates were also recorded. Data was analyzed using the SPSS software Vr. 28.0 and mean waiting times were calculated.

RESULTS

A total of 750 surgeries were included in this study. After the beginning of the lockdown and during “smart lockdown” elective procedures decreased rapidly. These statistics are elaborated in the following tables and graphs after comparative calculations.

Table 1: Comparison of laparoscopic cholecystectomy cases in Covid-19 and Pre-Covid era.

Parameters	Laparoscopic cholecystectomy Pre-Covid era (2019)	Laparoscopic cholecystectomy Covid-19 era (2020)
Mean	4.06	1.58
Median	4.00	2.00
Mode	5	0
Std. Deviation	1.49	1.58
Variance	2.23	2.50
Minimum	1	0
Maximum	6	5
Sum	195	76

Table 2 Comparison of total number of all major procedures before and during Covid-19.

Surgical procedures	Pre-Covid era Cases (May to Dec 2019)	Covid-19 era Cases (May to Dec 2020)	Total Number of Cases
Laparoscopic cholecystectomy	191	73	264
Mesh Hernioplasty	146	66	212
Perianal surgeries	103	23	126
Ileostomy reversal	51	33	84
Modified radical mastectomy	07	09	16
Thyroidectomies	26	05	31
Varicose stripping and ligation	06	03	09
TAPP procedure	07	01	08
Total	537	213	750

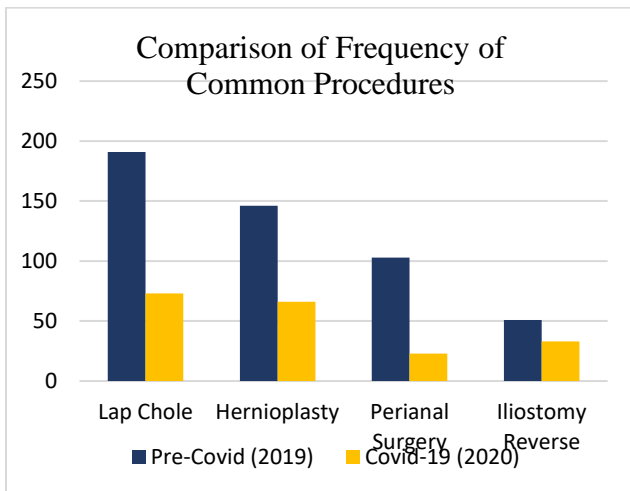


Figure 1: Graph showing four most common elective procedures before and during Covid-19.

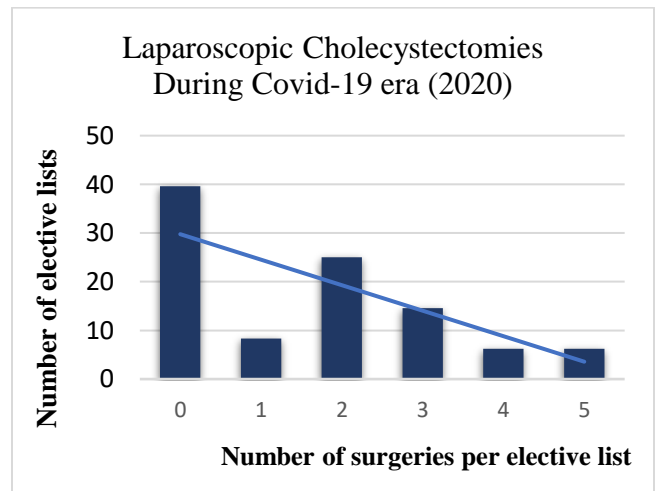


Figure 2:

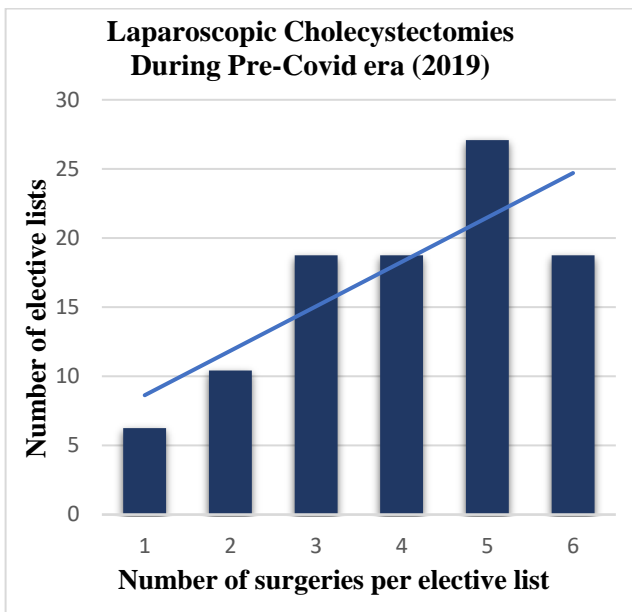


Figure 3

Figure 2&3: Laparoscopic cholecystectomy per day before and during Covid-19.

The mean waiting time for elective surgeries in 2020 increased almost 4 times as compared with that in 2019. Patient's follow up visits were recorded which showed an increase in morbidity and mortality due to increase in the waiting times of patients. More patients presenting late with advanced disease as inoperable and emergency cases. Waiting times were significantly higher during year 2020 in the months of May and June and then in the months of September and October due to more severe lockdown. Pending patients were given follow up calls for a later date but in many of these patients the disease had significantly progressed to lethal level.

DISCUSSION

According to findings of this study Covid-19 pandemic has had a huge negative impact on elective surgeries by increasing waiting times. Concerns have been raised that Covid-19 would lead to adverse outcomes owing to delays in elective surgery caused by postponement. A significant delay was proved by results of this comparison. Delays in surgery were reported to have affected the outcomes considerably. Longer delays worsened prognosis in many diseases and even turned an otherwise curable disease into an inoperable end stage disease. The hospital was overburdened during the times of Covid-19 pandemic contributing to a reduction in the elective surgery list. For the entire year of 2020, elective surgeries were being cut to half or deferred completely following the dawn of deadly pandemic. Our findings are comparable with other studies where authors found the delay in surgeries during Covid-19 era.^{1,3,4} Delays in surgery have been shown to

have an impact on outcomes, with longer delays causing worse prognoses and poor quality outcomes in many diseases.⁵ In our study, many elective paraumbilical and inguinal hernias who would otherwise have been kept on list for mesh hernioplasty presented to the emergency department with strangulated /obstructed hernia. A large proportion of patients of varicose veins postponed from the surgical list presented with painful, ulcerated lower limbs. Patients for whom stoma reversal had been planned for elective lists presented with skin excoriation, prolapse or retraction. Perianal surgery patients (including those scheduled for fistulectomy, fistulotomy and hemorrhoidectomy) presented with complicated fistulas or strangulated hemorrhoids and perianal sepsis due to increase in waiting times for elective list surgeries. Prioritization of surgery during epidemic phase should be made.

CONCLUSION

As a consequence of Covid-19 pandemic the limited elective capacity especially during the initial restrictions became quite evident in the form of treatment delays which had led to worsening of diseases. Subsequently, increased buildup of postponed patients due to delayed treatment were also observed. In addition, due to the limited access to elective surgical care during the initial lockdown and later even during "smart lockdown" there may still be pending cases to be operated. This might require us to devise a tactful strategy and capacity building in upcoming years to address the pandemic and its fatalities.

ETHICAL APPROVAL

The study was approved by the Institutional Review Board of Postgraduate Medical Institute / Ameer- ud- Din Medical College/ Lahore General hospital, Lahore.

REFERENCES

1. Ponkilainen V, Kuitunen I, Hevonkorpi TP, Paloneva J, Reito A, Launonen AP, et al. The effect of nationwide lockdown and societal restrictions due to COVID-19 on emergency and urgent surgeries. *Br J Surg.* 2020;107(10):e405–e6. doi: 10.1002/bjs.11847
2. Sud A, Jones ME, Broggio J, Loveday C, Torr B, Garrett A, et al. Collateral damage: the impact on outcomes from cancer surgery of the COVID-19 pandemic. *Annals of Oncology.* 2020;31(8):1065–1074.
3. Sud A, Torr B, Jones ME, Broggio J, Scott S, Loveday C, et al. Effect of delays in the 2-week-wait cancer referral pathway during the COVID-19 pandemic on cancer survival in the UK: a modelling study. *Lancet Oncol.* 2020;21(8):1035–1044.

4. Maringe C, Spicer J, Morris M, Purushotham A, Nolte E, Sullivan R, et al. The impact of the COVID-19 pandemic on cancer deaths due to delays in diagnosis in England, UK: a national, population-based, modelling study. *Lancet Oncol.* 2020;21(8):1023–1034.
5. Uimonen M, Kuitunen I, Paloneva J, Launonen AP, Ponkilainen V, Mattila VM (2021) The impact of the COVID-19 pandemic on waiting times for elective surgery patients: A multicenter study. *PLoS ONE* 16(7): e0253875.
6. Garbuz DS, Xu M, Duncan CP, Masri BA, Sobolev B. Delays worsen quality of life outcome of primary total hip arthroplasty. *Clinical Orthopaedics and Related Research* (1976–2007). 2006;447:79–84.

AUTHOR'S CONTRIBUTIONS

FS: Manuscript writing, Supervision

MA: Data Collection, Statistical Analysis

ZS: Methodology, Sample Selection

MA: IRB Approval

NA: Discussion

AA: Results, Conclusion, References