

Effect of COVID-19 on Elective Surgical Procedures at a Tertiary Care Hospital

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1. Abstract

Objective: To evaluate the effects of covid-19 pandemic on elective surgical procedures in the department of General Surgery Hayatabad Medical Complex.

Material & Methods: This study was carried out at the Deptt of General Surgery Hayatabad Medical Complex Peshawar from March 2019 to Feb 2021. A total of 1747 patients were included in the study. Patients were divided into Group A and B. Group A comprised of patients operated in non covid period i.e. March 2019 to February 2020, while Group B included patients operated during covid pandemic i.e. March 2020 to February 2021. The paired sample T-test was used to compare the variables among the two groups. P value < 0.05 was considered significant.

Results: A total of 1410 elective general surgical procedures were performed in Group A, out of which Laparoscopic cholecystectomy were 280 cases (19.8%), mesh repair 240 cases (17%), haemorrhoidectomy 210 cases (14.8%), splenectomy 119 cases (13.4%), MRM 135 cases (9.5%), anterior resection 127 cases (9%), nephrectomy 120 cases (8.5%) & thyroidectomy 108 cases (7.6%).

In Group B 337 elective surgeries were performed, including laparoscopic cholecystectomies 67 cases (19.8%), Mesh repair 59 cases (17.5%), haemorrhoidectomy 50 cases (14.8%), splenectomies 36 cases (10.6%), Nephrectomies 33 cases (9.7%), thyroidectomy 28 cases (8.3%), MRM 34 cases (10%) & anterior resections were 30 cases (8.9%)

Conclusion: there was significant reduction in number of elective surgical procedures during covid period in General Surgery Department of HMC.

2. Introduction

The COVID 19 pandemic affected healthcare delivery systems worldwide. There was a redistribution of health care resources in order to deal with the effects of the pandemic, with a corresponding consequence on other clinical services rendered. The extent of this effect on other non COVID 19 related services has been reported in other centers worldwide. In our own setting, health care resources are limited with suboptimal access even in normal situations.

First covid-19 patient was diagnosed in Pakistan on February 26th 2020. On 17th of June 2020 each district in Pakistan reported at least one verified case of Covid-19 [1]. Multiple advisories to surgeons were issued due to evolving understanding of the virus methods of spread advising them to be cautious when performing surgical procedures in order to limit the spread of the infection [2]. Resources were directed from elective services to emergency services in order to cope with the increasing number of covid-19 patients. Later on OPDs were closed resulting in reduced OPD visits as well as surgical admissions [3-4]. Moreover, referrals from periphery hospitals also reduced due to restriction on movement inside cities and neighborhoods. Patients were also hesitant to attend hospitals because it was thought that there was a significant danger of catching the virus in the hospital setting, as infected patients treated there and vulnerable healthcare personnel were plentiful [5]. In our context, where availability and access to healthcare services were already limited prior to covid-19 we think that changing dynamics of resources and system will further reduce surgical procedures, as has been found in several countries [6, 7]. Therefore, we set out to investigate the impact of covid-19 on elective

surgical procedures at our tertiary care health facility.

3. Material and Methods

This is a cross sectional comparative study carried out at General Surgery Department Hayatabad Medical Complex Peshawar from March 2019 to Feb 2021. After taking approval of hospital ethical committee patients were allocated in two groups A&B. Group A comprised of patients operated in non covid period i.e. March 2019 to February 2020. Group B included patients operated during covid pandemic i.e. March 2020 to February 2021. Informed consent was taken from all patients included in the study. Patients were admitted and relevant investigations were performed for each specific case, virology for screening of covid-19, HBV, HCV & HIV was done in all patients. Data was collected on preformed standardized preform and was saved in ward computer.

Sample technique: Non probability sampling technique

Inclusion criteria: All patients who were operated on elective lists.

Exclusion criteria: Following patients were excluded

1. Patients operated on emergency lists
2. HIV positive
3. Covid Positive

Paired sample T-test was used to compare the variable among two groups. P value ≤ 0.05 was considered statistically significant.

Table 1: Elective Surgical procedures comparison

Operations	Group "A"	Group "B"	Decrease in Number of cases	P value
	Number of cases	Number of cases	(%)	
Lap Cholecystectomy	280 (19.8%)	67 (19.8%)	213 (12.1%)	0.07
Mesh repair	240 (17%)	59 (17.5%)	181 (10.3%)	0.08
Haemorrhoidectomy	210 (14.8%)	50 (14.8%)	160 (9.1%)	0.06
Splenectomy	190 (13.4%)	36 (10.6%)	154 (8.8%)	0.08
MRM	135 (9.5%)	34 (10%)	101 (5.7%)	0.06
Anterior resection	127 (9%)	30 (8.9%)	97 (5.5%)	0.05
Nephrectomies	120 (8.5%)	33 (9.7%)	87 (4.9%)	0.05
Thyroidectomy	108 (7.6%)	28 (8.3%)	80 (4.5%)	0.04
Total	1410 (100%)	337 (100%)	1073 (71%)	

5. Discussion

The COVID-19 pandemic led in an increase in hospital admissions and a rise in the use of hospital services [8]. Because of the significant rise in demand for healthcare resources, these services were biased in favor of COVID-19 infections. Other health services were harmed as a result of this redistribution. Elective surgical services, which were the focus of our research, were severely harmed by numerous warnings restricting these procedures, as well as the challenges created by multiple lockdowns attempting to contain the virus's spread [9, 10].

When we compared the amount of elective surgical services given during the months of March to August 2020, when there were total or "smart lockdowns" in Pakistan, to the pre covid period and we discovered a substantial drop in the volume of elective surgical

4. Results

The research comprised a total of 1747 patients. Age ranged 25-65 years with a mean age of 45 years. Patients were allocated in two groups i.e. Group "A" & Group "B". Group A is subject to pre covid-19 period (March 19 to Feb 20) while group B represent covid-19 period (March 20 to Feb 21). In Group "A" 1410 elective general surgeries were performed, while in Group "B" only 337 elective procedures were performed.

Among 1410 patients in Group "A" 280 (19.8%) laparoscopic cholecystectomy was performed which was the highest ratio in the group, Mesh repair for different types of hernias were the second with 240(17%). Hemorrhoidectomy 210(14.8%) was on the third repeated surgeries reported, while splenectomies were 190(13.4%), MRM 135(9.5%), anterior resection 127(9%), Nephrectomies 120(8.5%) & thyroidectomy 108(7.6%) respectively.

On the other hand, a total of 337 elective surgeries were performed in Group "B". These included laparoscopic cholecystectomies 67(19.8%) of the total. Mesh repair of abdominal, incisional & inguinal hernias were 59(17.5%), hemorrhoidectomy 50(14.8%), splenectomies 36(10.6%), Nephrectomies 33(9.7%), thyroidectomy for thyroid cancer 28(8.3%), MRM 34(10%) & anterior resections were 30(8.9%) accordingly. This shows almost a definite decrease of 71% in elective surgeries (Table 1).

services rendered during the covid-19 [11]. Surgical outpatient visits decreased by 62% to 2020. This large drop can be attributed to the use of lockdowns, which severely curtailed movement [12].

Though those on their way to the hospital would not be turned away, the ban on public transit may have impeded patients' ability to reach hospitals. Outpatient Deptt also postponed several appointments and outright cancelled others in order to reduce the number of people visiting the clinics and slow the spread of the illness. Other researchers found a decrease in OPD visits as well [13]. When compared to Group "A," the number of elective surgical operations performed in Group "B" was reduced by 71%.

In a study by Ayyaz M et al reported a 66% decrease in elective operations during the pandemic. This decrease is about 71% in our study, indicating that covid-19 has had a significant influence

on the elective operations at our hospital. Several reasons might have had a role in the substantial drop in elective procedures [14-16]. The decreased number of cases planned for surgery was due to lower attendance in outpatient departments, the pool from which elective procedures are booked. Multiple surgical organisations, government agencies, and hospital managements issued warnings at the time, urging surgical societies, government agencies, and hospital managements to reduce operational surgery [17]. As a result, such processes were limited, with emergency situations receiving the majority of attention. During the lockdowns, several investigators noticed a drop in surgical output. The number of surgical operations decreased by 30%, according to Laas, D.J. et al [20].

Due to fewer admissions from the OPD, ward occupancy is also decreasing. The reduction in elective surgical operations is to blame for the considerable drop¹⁴. Similar studies in Pakistan found a 44 % drop in admissions not related to trauma during the lockdown [18, 19].

In comparison to Group "A," the aforementioned data demonstrate a substantial drop in elective surgical services at our department in Group "B." This was not an isolated incident at our facility. During the lockdown times, other studies have found a decrease in surgical services [20].

6. Conclusion

There was significant reduction in number of elective surgical procedures during covid-19 period in the Department of General Surgery Hayatabad Medical Complex Peshawar.

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