

Impact of Covid-19 on Diagnosis and Treatment of Colorectal Carcinoma, A Retrospective Study in Shaikh Zayed Hospital Lahore

Impact of Covid-19 on Diagnosis and Treatment of Colorectal Carcinoma

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ABSTRACT

Objective: To determine the impact of Covid-19 on colorectal cancer patient's diagnosis and treatment.

Study Design: Cross sectional case study

Place and Duration of Study: This study was conducted at the Department of General Surgery Unit-II, Shaikh Zayed Hospital, Lahore from January 2020 to January 2021.

Materials and Methods: Thirty patients presented for the treatment of colorectal cancer were enrolled.

Results: Middle aged population is most affected by this type of cancer with majority of patients being in the age bracket of 30-45 years. 19 of these patients were males while 11 were females with male to female ratio 1.7:1 of them passed away with 3 out of 4 patients dying who has contracted Covid during their treatment here. Covid-19 was a contributing factor in 46% cases of late diagnosis which leads to a higher rate of mortality, and it proved to be 75% fatal in patients who contracted it. The delay in diagnosis and treatment was almost primarily due to patients presenting themselves late for the treatment.

Conclusion: Covid-19 made people hesitant to seek early treatment which led to progression of the colorectal cancer resulting in a higher mortality rate. However no significant difference has been seen overall mortality in both groups those contracted Covid and those did not.

Key Words: Colorectal Cancer, Covid-19, Chemoradiotherapy

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INTRODUCTION

The Coronavirus (COVID-19) pandemic had a huge impact on all sectors around the world. As of February 2022, the virus has infected over 395,000,000 people and has claimed over 5,755,000 lives globally.¹ In particular, the healthcare system has been subject to an enormous pressure that has surpassed its ability in many instances. It has affected the means and modes of certain treatments as well such as the treatment of colorectal cancer by the means of chemoradiotherapy. Colorectal Cancer (CRC) is considered to one of the most common forms of cancer worldwide.

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In Men it's in the third most common type on cancer while in the women it's the second.²In a study done in 2020, the CRC accounted for 10% of global cancer cases and resulted in 9.8% of cancer related deaths. The estimated projection of CRC patients by 2040 is 3.2 million globally.³

As of 2020 an approximate 147,950 patients have been diagnosed with CRC and it resulted in about 53,200 deaths. Of these cases and mortalities 17,930 diagnosed patients were under the age of 50 and out of them there were 3,640 deaths.⁴

In the recent years it has been a rapid increase in the cases of CRC, especially in the developing countries. Dietary habits and genetic disposition are cited as the main factors behind it.⁵ While the median age for onset of CRC is 50 years globally, in Pakistan half of cases of CRC are among young patients.⁶

The advent of the pandemic is believed to have impacted the degree of diagnosis and treatment of CRC by the means of chemotherapy, chemoradiotherapy and surgery. According to study done in Iran where data from 43 databases from around the world was analyzed and it was found that delay percentage in the diagnosis of CRC increased from 5.4% to 26% and the treatments were interrupted, delayed or stopped significantly.⁷

MATERIALS AND METHODS

This cross-sectional study is aimed towards determining the possible effects of Covid 19 on the treatment of the patients receiving the chemo radio therapy. For this study a total of 30 patients were considered who presented themselves to the General Surgical and Surgical Oncology II Ward, Shaikh Zayed Hospital Lahore from Jan 2020 to Jan 2021. No certain age bracket was applied. These are the total number of patients of this particular malignancy during these two years. The study was aimed towards determining that how the Covid 19 effected the patients requiring chemo radio therapy. The study population consisted of both Neoadjuvant and adjuvant cases. It was determined that whether that pandemic led to delay in diagnosis and treatment. Possible delay both on the behalf of the patients and the ward were considered. The connection of Covid 19 to that of mortality in malignant patients was also considered. A hypothesis was made that there is a significant difference between both groups those who contracted covid and those who did not.

RESULTS

The case study consisted of 30 patients of whom 19 (63.3%) were males while 11 (36.7%) were females. The subjects were divided into age brackets 21-30, 31-40, 41-50, 51-60, and < 61. The most affected age group was 31-40 years old that comprised of 9 (30%) cases followed by 51-60 years old having 7(23.3%) of the cases. There were 5(16.7%) cases in the age bracket 41-50 years, 6(20%) in age group 21-30, 2(6.7%) in age group 61-70 and 1(3.3%) patient in the age group 71-80.

Of 30, 13(43.3%) expired during these two years. Of the 30 patients 4(13.3%) contracted covid during the course of treatment of them 3 died while one is still alive and under treatment. So, of 13, 3(23%) mortalities were linked to Covid-19 related complications of those who did contract Covid, the mortality rate was 75%. Patients who contracted covid 19 had mortality rate of 75% close and comparable to overall mortality of 77%. No significant difference has been seen in both groups.

Table No. 1: Age distribution of patients

Age (years)	No.	%
21-30	6	20
31-40	9	30
41-50	5	16.7
51-60	7	23.3
> 61	3	10

Table No.2: Sex distribution of patients

Sex	No.	%
Male	19	63.3
Female	11	36.7

Table No.3: Covid Related Mortality

	No.
Total Patients contracted covid 19	4
Patients died due to covid 19	3
Mortality Percentage	75%

Table No.4: Mortality in Covid Patients

Mortalities	No.	%
Deaths in Covid -ve patients	10	77
Deaths in Covid +ve patients	3	23

DISCUSSION

From the values provided in the tables it is apparent that during this period the greatest number of patients were below 50 (66.7%). This adds to the studies that CRC is more prevalent in the ages below the global median age of 50 in the developing countries and Pakistan is no exception.⁸ Covid 19 can be cited as a contributing factor in acceleration in CRC related mortalities since early diagnosis is an important mean to treat the patient as an advanced stage almost always results in a fatality. Unprecedented circumstances prevailed during the time span of the cases under consideration as the world was in grip of a pandemic. Every sector of the society was affected considerably. Due to obvious reasons, the medical sector also faced a lot of pressure and its capacity was hindered globally. Diagnostics of all types were delayed which inevitably impacted the treatment efficiency and capability. For an instance, as per a study during a span of year, the diagnosis was delayed by as much as 88% in Netherlands.⁹

Considering CRC in particular, in a study done in Iran, which evaluated the stats from 25 databases around the world since the beginning of the pandemic, it was established that in different nations during different points on the pandemic saw a decrease of 28% to 100% in the screening of Colorectal Cancer.¹⁰

During this period, from the particular 25 regions, only 2 to 2.5% hospitals and screening centers continued to operate to their full capacity while as much a 77% were forced to limit down their activities to 10% of their capacity.¹¹

When considering the case under study, a degree of impact by the Covid on diagnosis was observed. Though can be taken as the contributing factor rather than the main factor. During the course of study, many patients and attendants stated that the onset of Covid might be the cause behind them presenting themselves late for the treatment as they were afraid of contracting the virus. Of the 13 patients who passed away, attendants of 6 stated that they were not able to get an early diagnosis since they were hesitant of visiting a medical facility. so it can be assumed that Covid 19 was a contributing factor in 46.1% of the fatalities reported during the span of two years since it delayed the diagnosis. According to the American Society of Cancer, if diagnosed early, 5-year relative survival rate

is 90%.¹² But only 4 out of 10 colorectal cancers are found at an early stage, a ratio that has fallen further during the last year to decrease in the number of screenings conducted.¹²

In some studies, cancer patients were found to be more prone to contracting the virus and they often developed severe symptoms. Their probability of contracting the virus and then requiring intensive care due to rapidly declining condition was many folds greater than the general population. In cancer patients who contracted the virus, complications such as renal insufficiency, liver lesions, sepsis, myocardial injuries etc. were also observed.¹³

It was established in the case study that since the patients delayed their presence in the medical faculty, the cancer had progressed to advance stages that render chemo radio therapy ineffective and even rules out surgical intervention. Also, since there was a 75% mortality rate among patients who were Covid positive, it stipulates that lowered immunity levels resulting from chemo radio therapy and chemo therapy diminishes the immune response, making them more venerable to the virus.

As per the records of the Surgical II ward, there was no apparent decrease in the capacity of the treatment since it was in the list of prioritized treatments. While some low priority diagnosis and treatment facilities were temporary halted at the Sheikh Zaid Hospital, Cancer related facilities were offered as per usual. As for the surgical procedures, there was no change on the behalf of the hospital. No surgery was delayed or postponed due to covid and they proceeded as normal. It was made mandatory to produce a Covid test result prior to the procedure but even Covid positive patients weren't denied the treatment and the surgeries were done while taking extra precautions as per the Covid 19 protocol.

But that wasn't the general trend overall. For example, even in UK, the screening and treatment capacity was severely hindered by the pandemic. Like in the NHS foundation trust Hospital London, there was a treatment delay of as much as 53.3% in the CRC patients reviewed for the study.¹⁴ But this study fortifies the assumption that delayed diagnosis did lead to upstaging of cancer since it was noted that 38.6% of the patients whose diagnosis was delayed due to covid faced upstaging of CRC, thus adding to fatalities.¹⁴

In another done in Canada, the Alberta Cancer Registry Showed that there was a mere 6.5% decrease in the delay of cancer diagnosis by the means of asymptomatic screening.

All of this points to the notion that though also responsible directly fatalities in CRC patients due to their low level of immunity, Covid 19 led to delay in diagnosis since many patients didn't consult in time just leading to progression of the disease.

CONCLUSION

Covid-19 compelled about 46% of the total subject population to seek treatment later than they should have which led to progression of the disease. The Virus proved to be 75% fatal in the patients who contracted the virus. Delay in diagnosis was the main effect of the pandemic during the period of two years.

Author's Contribution:

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Conflict of Interest: The study has no conflict of interest to declare by any author.

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