

Post-operative Complications in Post-Covid-19 Positive Cancer Patients: An Experience from a Tertiary Care Cancer Centre, Odisha.

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ABSTRACT

The Coronavirus disease 2019 (COVID-19), the highly contagious infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has led to many devastating consequences and a significant decrease in the access and search for diagnosis and treatment of other diseases that also have a historically major impact on public health, such as cancer. So we aimed to study the postoperative complications in post COVID-19 positive cancer patients. This retrospective observational, cross-sectional, non-comparative study, carried out in the department of surgical oncology, Acharya Harihar Post Graduate Institute of Cancer for a duration of one year from 1st July 2020 till 30th June 2021. Results: Out of 760 patients, 60 (7.9%) patients tested positive for COVID-19 during this study period. Fourteen patients out of 60 were operated on after being COVID-19 negative and after 4 weeks of the initial positive test. Out of these 14 patients, (six carcinoma breast, three carcinoma stomach, two carcinoma rectosigmoid, one carcinoma jejunum, one carcinoma colon, and one head and neck cancer), seven patients were female and seven were male. The post-operative course was uneventful in all 14 patients apart from minor postoperative complications. In this study, no COVID-19 related morbidity or mortality was observed in electively operated patients. So, based on this data, the beneficial role of mandatory testing for COVID-19 before elective cancer surgery can be concluded.



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1. Introduction

The Coronavirus disease 2019 (COVID-19), the highly contagious infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has had a catastrophic effect on the world's demographics resulting in more than 2.9 million deaths worldwide, emerging as the most consequential global health crisis since the era of the influenza pandemic of 1918. This new coronavirus pandemic has led to many devastating consequences, with symptoms ranging from mild to severe including pneumonia to respiratory failure, cardiovascular events and multiorgan dysfunction and a significant decrease on the access and search for diagnosis and treatment of other diseases that also have historically major impact on public health, such as cancer [1]. Several reports have pointed to worst outcomes for patients diagnosed with COVID-19 disease during cancer treatment, hence justifying the role of pre-operative testing [2], [3]. However delay in the diagnosis and hence delay in the treatment of cancer impacts negatively on the prognosis. So, in our centre, we continued to provide the oncology services with adequate consideration of safety of health care workers as well as patients. Since, many patients harbouring the virus may remain asymptomatic and surgery in these patients may lead to worse clinical outcomes,⁴ we implemented this mandatory preoperative testing for COVID-19 by Real-time reverse transcriptase-polymerase chain reaction (RT-PCR) test before each planned elective surgical procedure. In this paper, we have documented the number of patients underwent the surgery during this period and their post-operative outcomes.

2. Materials and methods

This is a retrospective observational, cross-sectional, non-comparative study, carried out in the Department of Surgical Oncology, Acharya Harihar Post Graduate Institute of Cancer for a duration of one year from 1st July 2020 till 30th June 2021. Institutional ethics committee approval was obtained to conduct this study. A total 760 patients were operated during this period. All the patients underwent RT-PCR test for COVID-19 by nasopharyngeal swab, maximum of five days before elective surgery. After tests, patients were kept in the isolation till the results. Those patients who tested positive for COVID-19, their surgery was cancelled, were sent for home isolation and repeat testing was done minimum of 14 days after day of tested positive, and surgery was performed after 4 weeks of their date of tested positive.

3. Results

Out of 760 patients, 60 (7.9%) patients tested positive for COVID-19. All of these 60 patients who tested positive were asymptomatic and were previously planned for elective surgical procedures.

Positive tested patients were asymptomatic and were sent in home quarantine as per local COVID-19 designated hospital protocol.

Fourteen patients out of 60 were operated after being COVID-19 negative and after 4 weeks of initial positive test. Out of these 14 patients, seven patients were female and seven were male. Organ wise distribution of cancer patients who initially tested positive are shown in Table 1.

All the patients were monitored post operatively for COVID-19 related symptoms, and none of them developed any of the symptoms. Post-operative course was uneventful in all 14 patients apart from minor post-operative complications (Table 2). Remaining patients could not be followed up due to lockdown circumstances.

4. Discussion

After the declaration of COVID-19 as a pandemic, lockdown started all over the country and it became difficult for the people to access health care especially when all the resources diverted to ensure the care of

COVID-19 infected patients. In such circumstances, health of cancer patients got badly affected. Acharya Harihar Post Graduate Institute of Cancer, Cuttack, Odisha, continued to provide oncology services amidst such crisis. Our hospital was also successful in establishing an approved COVID-19 testing laboratory early, so, we were able to procure adequate supply of the testing kit. Hence, all the patients planned for elective surgery during the study period underwent mandatory COVID-19 RT-PCR testing. Patients were kept in isolation till the result of RT-PCR report was available as pre-operative testing before elective surgery. All necessary precautions were taken in perioperative period with use of proper sanitisation practices, use of double masks, face shields, social distancing, regular screening of health care staff as and when indicated. Post-surgery all patients were shifted in wards, where proper sanitisation procedures practiced., resulting in minimum post-operative complications. None of the operated patients developed COVID-19 infection in post-operative period.

All the patients that tested positive for COVID-19 were asymptomatic, but surgery was deferred in such cases. However, the role of asymptomatic patients in the viral transmission is still not clear [5]. In our study cohort, the rate of COVID-19 positivity was found to be 7.9% and all the patients were asymptomatic.

And since the role of viral transmission in asymptomatic patients is unclear, some opine that asymptomatic COVID-19 positive patients could undergo regular procedures in the hospital [6]. However, there are multiple problems associated with asymptomatic patients with COVID-19. In a study on residents of the northern Italian town of Vo', researchers noted that 41% to 44% of COVID-19 positive cases were asymptomatic, and they remained symptom free between two nasopharyngeal swabs 14 days apart [7]. They also confirmed through contact tracing that several new cases of COVID-19 detected in the second sampling had been caused by exposure to previously positive asymptomatic cases. Hence, asymptomatic patients could pose a greater risk of transmitting infection to health care workers and already immunocompromised cancer patients.

Also, risk of post-operative complications including pulmonary complications and mortality rates were more in patients who were COVID-19 positive and were operated [8]. COVID-19 severity also depends on patient characteristics like age, gender, and presence of co-morbidities like diabetes or hypertension [9]. Even in cancer patients, these factors are associated with increased mortality risk. Along with it, operating on a COVID-19 positive patient would need use of PPE kits, separate operating theatres, separate post-operative isolation wards and more judicial precautions and staff, that would exhaust the available resources. Keeping all these factors along with social and family relative problems and administrative reforms, surgeries on COVID-19 positive cases were only limited to emergency indications. Rest, we adopted the policy of pre-operative testing that led to decrease in COVID-19 related complications [10].

5. Conclusion

Delay in elective surgery can negatively affect the prognosis and disease progression, but we need to analyse the risk benefit ratio keeping community and other factors in mind. In our study, there was no COVID-19 related morbidity or mortality in electively operated patients. So, based on this data, beneficial role of mandatory testing for COVID-19 before elective cancer surgery can be concluded.

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6. References

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Table 1. Organ wise distribution among patients who initially tested positive (n = 14)

| Cancer Site | Number | Percentage |
|---------------|--------|------------|
| Breast | 6 | 42.8 |
| Stomach | 3 | 21.4 |
| Small bowel | 1 | 7.1 |
| Colorectal | 3 | 21.4 |
| Head and Neck | 1 | 7.1 |
| Total | 14 | 100 |

Table 2. Post-operative complications (n = 14, 21.4 %)

| Post-operative complications | Numbers |
|------------------------------|---------|
| None | 11 |
| Minor | 3 |
| Major | nil |
| Mortality | nil |