

Impact of the COVID-19 on Cancer Management at Birat Medical College and Teaching Hospital, Nepal



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ABSTRACT

Background: Coronavirus disease which has become a pandemic has also impacted cancer service to a small country like Nepal which has very low resources. **Aims and Objectives:** Covid infection itself and the lockdown implemented by the government resulted negative impact in our cancer management. Hence the aim of the study was to delineate the impact of Covid in cancer management. **Materials and Methods:** We did a prospective descriptive study from 1st March 2020 till 1st August 2020 in our medical oncology department at Birat Medical College and Teaching Hospital (BMCTH). **Results:** We had 60% reduction in the newly diagnosed cases, 40% decrement in the chemotherapy admissions and total fourteen mortalities. PCR test was advised for all the COVID suspects with features of fever and separate observation ward was started for such patients. Delayed in the cancer diagnosis and treatment could result in increase in the advanced cancer burden which can overwhelm the health service in Nepal. **Conclusion:** COVID 19 had negative impact on cancer treatment and management at our institution.

Key words: Coronavirus disease; Cancer; Nepal

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INTRODUCTION

The coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has become a global pandemic.¹ Patients with cancers are more susceptible to COVID-19 as they are more fragile, immunosuppressed, usually elderly with multiple comorbidities.² On 31st December 2019, the WHO was first informed about cases of COVID pneumonia from Wuhan city, Hubei province of China.³ A new analysis done in United Kingdom, estimates a 20% increase in newly diagnosed cancer cases and at least 6270 additional deaths to occur even in a developed country like England over the next year in cancer patients as a result of the covid-19 pandemic.⁴ A retrospective analysis of 355 patients who died of COVID-19 in Italy showed that 20.3% patients had active

cancer.⁵ In a study conducted by Eichenberger E M et al on 678 stem cell transplant recipients between May 2013 and June 2017, 112 patients were found to develop human corona virus infection. 34 out of the corona virus infected patients progressed to lower respiratory tract infection.⁶ However, globally, the evidence regarding the impact of COVID-19 on patients with cancer is insufficient and on extensive review of literature no reports on the impact of COVID on cancer patients in Nepali population has been found. On 24 January 2020, Nepal officially announced its first confirmed COVID-19 case in a 32-year old male, who had returned from Wuhan city, China.⁷ The total population of Eastern Nepal is 5,811,555 in which 50.4% is females.^{8,9} Till 1st August 2020, twenty thousands and eighty-six confirmed COVID-19 cases have been reported in Nepal with fifty-six deaths. As per the preliminary data, cancer

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is increasing in eastern part of Nepal too and females are also having rise in the cases. Covid infection itself and the lockdown implemented by the government resulted negative impact in our cancer management. Hence we wanted to study for the same in our department.

MATERIALS AND METHODS

This prospective descriptive study was conducted from 1st March 2020 till 1st August 2020 in medical oncology department at Birat Medical College and Teaching Hospital (BMCTH). All the histopathologically proven cancer patients admitted to the oncology unit during the specific study periods were taken as study population. Those not giving consent for enrollment in the study were excluded. Proforma comprising patient details including age, sex, associated comorbidities, types of cancer, treatment received etc. were maintained in excel sheet and the collected data were analyzed with the help of Statistical Package for Social Sciences (SPSS).

Patient and family involvement

The study was supported by a dedicated team comprising of medical oncology team, enrolled patient and family involvement. Data was collected by either real time meeting, virtual meeting or tele communication.

RESULTS

During the study period, total fifty patients enrolled for the study out of whom forty were old diagnosed patients and ten were newly diagnosed. Due to the weekly based chemotherapy protocol, these patients got admitted multiple times making a total of three hundred fifty admissions in the oncology department (Table 1). Thirty out of fifty subjects were male and twenty were female with their age ranging from 19 years to 92 years and mean age of 58 years. There was total fourteen deaths during the study period out of which seven deaths were due to suspected COVID 19.

During this prevailing COVID era, we were dealing with two effects on cancer management at our hospital. One

was directly due to COVID infection and the other due to lockdown imposed by the government to reduce the risk of transmission. With the background of scarce knowledge of COVID, the estimation of the risk versus benefit of administering potentially immunosuppressive chemotherapy treatment to patients with cancer, and balancing individual benefits in our limited resource, poses ethical dilemmas.

To downplay the exposure by COVID infection, various measures were taken (Table 2) including screening of all the individuals entering the hospital premises for fever by monitoring the temperature with Infrared thermometer. If there was any suspicion of COVID, then the patients were referred to our separate COVID observation ward for further testing and management. Only those who were assumed to be COVID negative were allowed for admission for cancer treatment. In order to minimize the COVID infection, we replaced the regular out patient consultation with telephonic and online consultation through various online platforms, the patients were shifted from common general ward to semi deluxe cabin or single occupancy cabins for chemotherapy treatment and the basic tests were done as per priority. The nursing staffs and care givers were strictly instructed for the use of PPE and face shields while handling the patients. The standard chemotherapy regimen protocol was followed. However, as many of the patients came from a distance, hence the duration of the therapy was relaxed based upon the performance of the patient and the type of cancer. Those patients with haematological malignancies followed the treatment guidelines more strictly than the solid malignancy patients. Most of the patients receiving chemotherapy were discharged on the same day. The patients and visitors were advised to wear proper mask, avoid crowds and only single visitor policy was followed.

The impact of lockdown implemented resulted in travel restrictions which resulted in 80% decrease in OPD consultations (Table 3) initially but with increasing COVID infections, later even the OPDs were nonfunctional and only emergency services were offered by the hospital for two weeks. This affected the oncological unit as well, resulting in curtailment of the oncology staffs by the hospital management. Due to the increased work load on the radiology and pathology departments during the

Table 1: Characteristics of study populations

Characteristics	Frequency (N)
Total admissions	350
Total number of cases	50
Old diagnosed cases	40
Newly diagnosed cases	10
Male	30
Female	20
Mean age	58
Total death	14

Table 2: Measures to combat COVID

Screening of Individuals entering hospital premises for fever with Infrared Thermometer.
Facemask and Handwashing strictly.
Use of separate observation ward for suspicious patients.
Use of telephonic consultation , virtual app based consultation.
Modification of chemotherapy duration to minimize hospital stay.
Strict single visitor policy.

Table 3: Impact of COVID 19 in oncology department

Characteristics	Percentage
Decrement in outpatient department (opd) treatment	80
Decrement in new cases	60
Decrement in chemotherapy admission	40
Mortality due to suspected COVID	50
Mortality due to cancer progression	50

pandemic, procedures for disease assessment like CT scan and bone marrow biopsies, were deferred and rescheduled. Despite these adversities and minimal resources, we were still offering the scheduled chemotherapy treatment to the patients who could reach out to us. In order to facilitate hassle free movement of medical staffs and even the regular cancer patients requiring chemotherapy, documents were issued to those individuals like hospital identity card and medical documents for free vehicle movement during the lockdown. The initial complete shutdown of wards and oncological facilities for about a week, brought about higher morbidity and mortality of our cancer patients. The second major impact of COVID was crippled transportation of necessary chemotherapy drugs leading to immediate acute shortage of the drugs for about two weeks. However, this shortcoming was managed with the help of emergency services delivered by ambulances etc.

In the study, we found 60% reduction in the newly diagnosed cases and about 40% decrement in the chemotherapy admissions. We encountered fourteen mortalities of cancer patients where 50% were due to suspected COVID, while the rest 50% were due to progression of the cancer. Those amongst who died, four died in the hospital while on treatment, two died on the way to hospital, and eight died at home without any treatment. Majority of the patients who died, had hematological malignancies and were elderly with co-morbidity like diabetes and on immunosuppressive drugs.

In the context of Nepal, we do not have any regulatory agencies issuing guidelines on management of cancer patients on COVID crisis with protocol amendments, protecting patient's safety etc. However at BMCTH, we followed The European Society of Medical Oncology (ESMO) approach for categorizing patients into different priorities for receiving active cancer therapy during the pandemic.¹⁰ Health education was provided to all the cancer patients regarding protection from COVID 19 (Table 4). Higher priority was given to the patient with immediate life threatening or clinically unstable condition. In order to keep ourselves updated we conducted all the academics and research-oriented meetings on virtual platforms.

Following the in-house protocol of our institute, PCR test was advised for all the COVID suspects with features of

Table 4: Medical education to cancer patients

Avoid crowded places.
Wear personal protective equipment(PPE) when you attend hospital for visits and treatments
Correctly wash your hands according to World Health Organization (WHO) indications
Do not have contacts with friends and relatives with COVID-19 symptoms or living in endemic zones
Guarantee social distancing with all people: protect yourself to protect others

fever. However, ten patients who had fever were found to be PCR negative and thereafter were admitted to the inpatient department for the further management.

During the aforesaid period, one haematological patient while in intensive care unit with ongoing treatment was found to be PCR positive after which he was referred to the COVID care hospital. Following the incidence, the ICU was fumigated and contact tracing and quarantine was offered to all those exposed. Although few ICU staffs were found to be positive, none of the oncology staffs were affected by the disease, still the angst of contacting the virus at any point of time while handling and treating the patients still exists.

DISCUSSION

Contracting COVID-19 at any point of time and the guilt of spreading it to the families are matters of concern while working in our department. On the other hand, the fear of exposure to the virus from the hospitals and medical staffs intimidate the patients and relatives from contacting the oncologists for the diagnosis and treatment of cancer. Delayed cancer diagnoses during the next few months, risks many cases going undetected and untreated. Once the pandemic is over, an increase in advanced-stage cancers due to diagnostic delays could overwhelm health services and contribute to an excess in cancer-related mortality in the coming years.¹¹ Ensuring safety of patients and medical staffs during this pandemic is of prime importance. Awareness programs on COVID-19 symptoms, use of personal protective equipment by health care workers, screenings tests and quarantine / isolation protocols were implemented at our hospital. Level 2 Covid Isolation department was started to treat covid positive patients in our hospital. All the patients were screened for Covid before admission into oncology department on regular basis. Even the medical staffs were screened on regular basis and quarantined as required. Handwashing, face mask and sanitization were implemented by hospital management as per the government norms. Hospital access was restricted for vendors, visitors and auditors. Katten et al.,¹² studied the impact of corona virus pandemic on the management

of cancer patients in Lebanese population, where they followed the Lebanese Society of Medical Oncology (LSMO) guidelines for optimal care for cancer patients but could not strictly adhere to the protocol. Likewise, we followed the ESMO guidelines, however, due to similar issues we could not adhere to the protocol and encountered relatable problems as that of the Lebanese study.

CONCLUSION

Though, we have negative effect on cancer treatment at our institution, we hope with the support of all, we would provide the best possible care even in this difficult time. With the development of vaccines, we hope for control of COVID-19 pandemic and better world for cancer management in the future.

REFERENCES

1. You B, Ravaud A, Canivet A, Ganem G, Giraud P, Guimbaud R, et al. The official French guidelines to protect patients with cancer against SARS-CoV-2 infection. *Lancet Oncol.* 2020; 21:619-621. [https://doi.org/10.1016/S1470-2045\(20\)30204-7](https://doi.org/10.1016/S1470-2045(20)30204-7)
2. Zhang L, Zhu F, Xie L, Wang C, Wang J, Chen R, et al. Clinical characteristics of COVID-19-infected cancer patients: a retrospective case study in three hospitals within Wuhan, China. *Annals of Oncology.* 2020; 31(7): 894-901. <https://doi.org/10.1016/j.annonc.2020.03.296>
3. Novel Coronavirus (2019-nCoV). World Health Organization; 2020. <https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200121-sitrep-1-2019-ncov.pdf>. Accessed 12 April 2020.
4. Wise J. Covid-19: Cancer mortality could rise at least 20% because of pandemic, study finds. *BMJ.* 2020;369:m1735. <https://doi.org/10.1136/bmj.m1735>
5. Onder G, Rezza G and Brusaferro S. Case-fatality rate and characteristics of patients dying in relation to COVID-19 in Italy. *JAMA.* 2020; published online March 23. <https://doi.org/10.1001/jama.2020.4683>
6. Eichenberger EM, Soave R, Zappetti D, Small CB, Shore T, van Besein K, et al. Incidence, significance, and persistence of human coronavirus infection in hematopoietic stem cell transplant recipients. *Bone Marrow Transplant.* 2019; 54: 1058-1066. <https://doi.org/10.1038/s41409-018-0386-z>
7. Coronavirus disease (COVID-19) outbreak updates and resource material. Ministry of Health and Population. 2020; <https://drive.google.com/drive/folders/1SQz5zoNNwYGiwBeHxnU6sYs261fg1Tx>. Accessed 10 April 2020
8. Eastern Development Region, Nepal" – news · newspapers · books · scholar · JSTOR (September 2014)
9. <https://countrymeters.info/en/Nepal>
10. <https://www.esmo.org/guidelines/cancer-patient-management-during-the-covid-19-pandemic>
11. Editorial. Safeguarding cancer care in a post-COVID-19 world; *www.thelancet.com/oncology* Vol 21 May 2020. [https://doi.org/10.1016/S1470-2045\(20\)30243-6](https://doi.org/10.1016/S1470-2045(20)30243-6)
12. Kattan C, Badreddine H, Rassy E, Kourie HR and Kattan J. The impact of the coronavirus pandemic on the management of cancer patients in Lebanon: a single institutional experience. *Future Oncol.* 2020; 16(17): 1157–1160. <https://doi.org/10.2217/fon-2020-0313>

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