

IMPACT OF THE COVID-19 PANDEMIC ON CANCER DISEASE MANAGEMENT

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ABSTRACT

Cancer is a major burden on the medical community around the world. Each year, tens of millions of people are diagnosed with cancer, and more than half of patients eventually die from it. In many countries, cancer is the second most common cause of death after cardiovascular disease. According to the WHO (World Health Organization), "one in five men and one in six women in the world will develop cancer in their lifetime, killing one in eight and one in eleven respectively".^[1]

The first case of coronavirus disease 2019 (COVID-19) was identified in Wuhan, China at the end of 2019, and the disease has now spread around the world to be declared a "public health emergency of international concern (USPPI). By WHO in March 2020. In an attempt to contain the COVID-19 pandemic, lockdowns and drastic measures have been implemented in all parts of the world.^[2] Nonetheless, these initiatives have had substantial collateral damage on medical issues unrelated to COVID-19. Several studies have shown that cancer healthcare has been greatly affected in the face of the COVID-19 pandemic.^[3] In fact, the American Society of Clinical Oncology recommends conserving health system resources and reducing patient contact with health care facilities".^[4]

In our study, 54.5% of patients experienced a change in treatment protocol versus 45.5% who kept the same protocol. Among the reasons for this change in protocol, 38.4% were to be able to respect the barrier gestures while 16.2% of the protocols were lightened (dose reduction).

62.6% of patients in our series did not meet the time between chemotherapy courses while 37.4% did. 34.3% had not followed the intercourse because they were afraid of COVID 19, and 24.2% because of the lack of transport, 4% because of both causes.

Further studies would be desirable in order to show the long-term impact of COVID-19 on the course of the cancerous disease since it is difficult to prove it exactly in four months.^[5,6]

KEYWORDS: cancer, COVID-19, impact, management, treatment.

INTRODUCTION

Coronaviruses are a large family of viruses that can cause disorders ranging from mild cold to serious illness. Some coronaviruses are zoonotic, which means they spread from animals to humans. In December 2019, a new coronavirus called Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) caused a COVID-19 pandemic. Typical symptoms of COVID-19 include fever, cough, shortness of breath, and muscle pain. Serious complications have been reported in 33% of patients with COVID-19 and include acute respiratory distress syndrome, acute renal failure, acute respiratory injury, septic shock, and severe pneumonia.^[3,7]

The immunocompromised status of some cancer patients (whether caused by the disease itself or by the treatment) increases their risk of infection compared to the general population.

Immunosuppression can also expose cancer patients to serious complications from infection, which can lead to delayed treatment and unnecessary hospitalizations that could negatively affect the prognosis of the disease.^[7] That said, the pandemic appears to be having a highly degrading impact on cancer patients. Due to the worsening nature of cancer, postponing treatment or screening has considerable potential to increase the

likelihood of disease progression to more fatal stages and result in metastasis.^[3]

Therefore, oncologists face an unfortunate dilemma: choosing to postpone the situation would likely worsen the disease, but choosing not to do so would expose patients to potential viral infection leading to equally catastrophic results.^[3]

The objective of this study is to show the impact of COVID-19 on the management of patients in the medical oncology department of the National Institute of Oncology in Rabat.

MATERIALS AND METHODS

This is a retrospective study including ninety-nine patients followed for various cancers during the first wave of COVID-19 between March and June 2020 at the National Institute of Oncology in Rabat. We were interested in the following parameters: age at diagnosis, sex of patients, stage of disease, immunohistochemical type, location, curative or palliative treatment, change in treatment protocol, and the reasons behind these changes. The data was collected by an exhaustive search of medical, radiological, and anatomopathological records available at the archives department of the National Institute of Oncology in Rabat. Statistical analyzes were performed using Microsoft Office Excel software and SPSS Version 20.

RESULTS

Table1: Patient characteristics for the study.

Characteristics		Numbers	Percentage	
Sex	Men	22	22,2	
	Women	77	77,8	
Age	Median	60 years (27 - 92)		
Localization	Cervical carcinoma	2	2,0	
	Colon carcinoma of unknown primary	8	8,0	
	Stomach blood	1	1,0	
	Esophagus	1	1,0	
	Ovary	4	4,1	
	Pancreas	3	3,1	
	Foot	1	1,0	
	Lung	7	7,0	
	Prostate	8	8,0	
	Rectum	3	3,0	
	Breast	55	55,6	
	Gall bladder	1	1,0	
	Bladder	1	1,0	
	Biliary	2	2,0	
	Histological types	Adénocarcinoma invasive ductal carcinoma	36	36,4
		squamous cell carcinoma	56	56,6
		urothelial carcinoma	4	4,0
Hodgkin lymphoma		1	1,0	
melanoma		1	1,0	
II	24	24,2	II	
III	26	26,3	III	
IV	49	49,5	IV	
Curative	51	51,5	Curative	
Palliative	48	54,5	Palliative	
N=99				

Age

The median age at diagnosis was 60 years with extremes ranging from 27 to 92 years.

Sex

There were 77.8% female versus 22.2% male

Localization

In our series, there was 55.6% of breast localization against, 8.1% colon, prostate 8.1%, lung 7.1%, 4% ovary, 3% rectum, 3% pancreas, 2% cervix, 2% bile ducts, and 1% for the stomach, Non-Hodgkin lymphoma, oesophagus, gall bladder, foot and bladder.

Histological type

The histology is dominated by 96.6% adenocarcinoma versus 4% squamous cell carcinoma, and 1% melanoma, urothelial carcinoma, and non-Hodgkin lymphoma.

Stage

49.5% of patients were stage IV, against 26.3% stage III, 24.2% stage II.

Curative or palliative situation

The majority of patients in our series were in a curative strategy 51.5% against 48.5% in a palliative situation

Protocol change

54.5% of the patients in our study experienced a change of protocol compared to 45.5% who kept the same protocol.

Table 4: Distribution of staff according to whether or not the inter-cure space is respected and the various reasons for non-compliance with the inter-cure.

Cause not respect			
		Number	Percentage
Not respected	Absence of transport(1)	24	24,2
	Covid fear (2)	34	34,3
	(1)+(2)	4	4,0
	Total	62	62,6
Respected		37	37,4
Total		99	100,0

DISCUSSION

The first case of coronavirus disease 2019 (COVID-19) was identified in Wuhan, China at the end of 2019, and the disease has now spread around the world to be declared a "public health emergency of international concern (USPPI). By WHO in March 2020. In an attempt to contain the COVID-19 pandemic, lockdowns and drastic measures have been implemented in all parts of the world.^[1] Nonetheless, these initiatives have had substantial collateral damage on medical issues unrelated to COVID-19. Several studies have shown that cancer healthcare has been greatly affected in the face of the COVID-19 pandemic.^[3]

In our study, 54.5% of patients experienced a change in treatment protocol versus 45.5% who kept the same

Table 2: Distribution of staff according to the change in protocol.

Protocol change after COVID		
	Number	Percentage
No	45	45,5
Yes	54	54,5
Total	99	100,0

Reasons for protocol change

38.4% of the protocol cases were not adapted and 16.2% were reduced.

Table 3: Distribution of staff according to the causes of the change in protocol.

Causes change protocol		
	Effectifs	Percentage
Non-adapted protocol	38	38,4
Light protocol	16	16,2
Protocol not changed	45	45,5
Total	99	100,0

Inter-cure space and causes of non-compliance with the inter-cure

62.6% of patients in our series did not meet the time between chemotherapy courses while 37.4% did.

34.3% had not followed the intercourse because they were afraid of COVID 19. 24.2% because of the lack of transport and 4% because of both causes.

protocol. Among the reasons for this change in protocol, 38.4% were motivated to be able to comply with the barrier gestures while 16.2% of the protocols were lightened (dose reduction). Similarly, omissions, delays, or fragmentation of care can have a clinically important adverse influence on the quality of life or survival. These results were found in the study by Moris *et al.*^[8] Unfortunately, the effect on survival outcomes is not well described in the literature, and data from international cohorts and consortia can be useful.^[6]

It is also difficult for us to show the effect of these changes in protocol and dose reduction on the course of the cancerous disease because of the short time frame (4 months), period of our study.

Also, 62.6% of patients in our series did not meet the time between chemotherapy courses while 37.4% did. 34.3% had not followed the intercourse because they were afraid of COVID 19, and 24.2% because of the lack of transport, 4% because of both causes. We find these same findings in the study by Trehan et al, who noted a failure to respect the deadlines for chemotherapy because of the closing of borders, the obligation to respect barrier gestures.^[5]

Overall, these changes can certainly affect the outcome of cancer patients. In this new landscape, as the cancer community revises optimal standards of cancer care, research should focus on identifying the factors that contribute to preventable mortality and facilitating the implementation of strategies to benefit patients.^[8]

CONCLUSION

Coronaviruses are a large family of viruses that can cause disorders ranging from mild cold to serious illness. Some coronaviruses are zoonotic, which means they spread from animals to humans. In December 2019, a new coronavirus called Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) caused a COVID-19 pandemic.^[3,5]

The Covid-19 pandemic has caused unprecedented societal upheaval, triggering the rapid transformation of healthcare systems around the world. Emerging data shows that the covid- 19 pandemic has the potential to amplify pre-existing disparities, especially for cancer patients. Although oncology societies offer guidelines for cancer care during the pandemic, the prioritization in the delivery of cancer therapies is strongly influenced by the magnitude of the potential benefit of the treatment, the therapeutic intention, and the access to healthcare.^[8]

The pandemic appears to have a highly degrading impact on cancer patients. Due to the worsening nature of cancer, postponing treatment or screening has considerable potential to increase the likelihood of disease progression to more fatal stages and result in metastasis.^[6] Overall, these changes can certainly affect the outcome of cancer patients. In this new landscape, as the cancer community revises optimal standards of cancer care, research should focus on identifying the factors that contribute to preventable mortality and facilitating the implementation of strategies to benefit patients.^[8]

Further studies would then be desirable to show the long-term impact of COVID-19 on the progression of the cancerous disease since it is difficult to prove it exactly in four months.

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