

Demographic, Clinical Profile and Outcomes of Cancer Patients with COVID-19 Infection

FPN: YO30

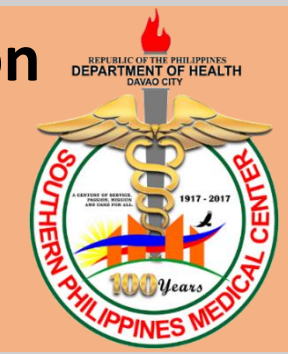
in a Tertiary Hospital Davao City: A Case Series

PERLITA JOANNE D. YU-DELA CRUZ, MD¹, KENNY JUN DEMEGILLO, MD, FPCP, FPSMO¹

KATHRYN U. ROA, MD, MPH, FPCP, FPISMD, CSPSH²

(1) Section of Medical Oncology, Southern Philippines Medical Center

(2) Section of Infectious Diseases, Southern Philippines Medical Center



Background

Cancer is a risk factor for COVID-19 infection and it is also recognized that cancer patients who become infected with SARS CoV-2 have worse outcomes as compared to the general population. This may be attributed to a dysfunctional immune system due to their underlying illness, as a consequence of cancer-related treatments, existing comorbidities and advanced age.

This case series will collect and analyze data from cancer patients who are COVID-confirmed and were admitted at a tertiary hospital in Davao City. The aim is to understand the demographic profile, clinical characteristics and outcomes of cancer patients with COVID-19 infection in our locality and to facilitate delivery of more effective strategies in the management of these patients.

Methods

Cancer patients with COVID-19 infection admitted at a tertiary hospital in Davao City were identified. Data were obtained through chart review. Information included were from patients diagnosed from March 2020 to September 22, 2020.

Results

Fourteen cancer patients were diagnosed with COVID-19, with a median age of 45 years (range 19-61 years), and 10 (71%) are females. Three (21%) patients have hypertension and diabetes. Tumors mostly were from the CNS (21%) while breast, GUT, head and neck, lymphoma each represent 14% of the total cases. 64% of patients have stage 4 disease, 3(21%) patients had stage 3. Four (29%) patients had chemotherapy within the last 3 months of admission. Dyspnea (36%), cough (29%) and fatigue (21%) are the most common symptoms. Chest radiograph finding of bilateral infiltrates was seen in 7 (50%) patients. CRP and serum ferritin were the most common laboratory abnormalities seen in 11 (79%) patients. Nine (64%) patients received supplemental oxygen and 4 (29%) needed ventilator assistance. Steroids was given in 3 (21%) patients and 11(79%) received antibiotics. Complications of acute respiratory failure was seen in 5(36%) patients and 2 (14%) had septic shock. There were 6 (43%) COVID-19 related deaths and 7 (50%) patients were discharged. The median length of hospital stay is at 13 days.

Table 1: Demographic profile and baseline characteristics of patients with cancer and COVID-19.

Characteristic	Patients N=14 (%)
Mean Age (Range) – years	45 (19-61)
Sex – no. (%)	
Male	4 (29)
Female	10 (71)
Smoking History – no. (%)	
Yes	1 (7)
No	9 (64)
Unknown	4 (29)
Comorbidities – no. (%)	
Hypertension	3 (21)
Diabetes	3 (21)
COPD	0
CVD	0
CKD	1 (7)
Cancer Location – no. (%)	
Breast	2 (14)
Lung	1 (7)
Gastrointestinal Tract	1 (7)
Genitourinary	2 (14)
Head and Neck	2 (14)
Lymphoma	2 (14)
CNS	3 (21)
Unknown primary	1 (7)
Stage of Disease – no. (%)	
I	0
II	0
III	3 (21)
IV	9 (64)
Unknown	2 (14)
Status of Cancer Care – no. (%)	
On chemotherapy within the last 3 months	4 (29)
Not on chemotherapy	10 (71)
Symptoms on admission – no. (%)	
Fever	2 (14)
Cough	4 (29)
Dyspnea	5 (36)
Fatigue	3 (21)
Diarrhea	1 (7)
Coryza	2 (14)
Headache	1 (7)
Anosmia	1 (7)
Decrease in sensorium	2 (14)

Table 2: Radiologic and median laboratory findings of patients with cancer and COVID-19.

	Patients N=14 (%)
Chest Radiography Findings – no. (%)	
Clear	5 (36)
Bilateral Infiltrates	7 (50)
Pleural Effusion	5 (36)
PTB	1 (7)
Laboratory results on Admission	Median (IQR)
Leukocytes x 10 ⁹ /L	8.6 (7.91)
Neutrophils x 10 ⁹ /L	78 (16)
Lymphocytes x 10 ⁹ /L	12 (11)
NLR	6.55 (7.07)
Hemoglobin mg/dL	108 (30)
Platelets x 10 ⁹ /L	345 (122)
SGPT U/L	36.85 (64.06)
SGOT U/L	40.15 (26.4)
Creatinine umol/L	65.5 (42.44)
BUN mmol/L	4.79 (5.175)
Albumin g/L	24.91 (10.08)
CRP mg/dL	11.51 (11.95)
LDH U/L	688.5 (414.6)
Procalcitonin	0.27 (5.49)
Ferritin ng/ml	741 (943.8)

PTB = pulmonary tuberculosis. Neutrophil-lymphocyte ratio. BUN = blood urea nitrogen. CRP = C-reactive protein. LDH = lactate dehydrogenase. IQR = interquartile range.

Table 3: Treatment, complication and outcome of patients with cancer and COVID-19.

	Patients N=14 (%)
COVID Treatment Received – no. (%)	
Oxygen therapy	9 (64)
Mechanical Ventilation	4 (29)
Antiviral therapy	0
Steroids	3 (21)
Hemoperfusion	0
Monoclonal antibodies	0
IV antibiotics	11 (79)
Complications – no. (%)	
Acute respiratory failure	5 (36)
Septic Shock	2 (14)
Acute Kidney Injury	0
Acute Myocardial Infarction	0
Severity of COVID symptoms – no. (%)	
Mild	6 (43)
Moderate	2 (14)
Severe	0
Critical	6 (43)
Median length of hospital stay – median (IQR)	13 (17.5)
Outcome	
Discharged	7 (50)
Died	6 (43)
Still admitted	1 (7)

IV = intravenous. IQR = interquartile range.

An observation in this series is that of the 4 (29%) patients who received chemotherapy within 3 months, only 1 had critical COVID-19 disease and subsequently died. This patient was noted to have breast cancer that was metastatic to the lungs which could have been contributory to the patient's respiratory compromise. The three patients who survived, however, did not have tumor involvement to their lungs. Two of the patients had their last chemotherapy more than 3 weeks prior admission and one patient was ongoing oral chemotherapy immediately prior admission. This is comparable to the observation of Tian et al, that the risk of COVID-19 severity and death was highest for patients with last chemotherapy treatment within 2 weeks of admission, and this risk decreased as the time interval since the last chemotherapy increased, with significantly reduced risk if the last treatment was at least 3 weeks before hospital admission.⁴

Conclusion

Cancer patients have increased risk of contracting COVID-19 infection and are more likely to have worse COVID-19 disease and outcomes.