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☆ **Spotlight on Special Topics**

**CARDIOVASCULAR AND MORTALITY OUTCOMES IN ONCOLOGY PATIENTS HOSPITALIZED WITH COVID-19**

Poster Contributions  
Saturday, May 15, 2021, 2:45 p.m.-3:30 p.m.

Session Title: Spotlight on Special Topics: Cardio-Oncology 3  
Abstract Category: 57. Spotlight on Special Topics: Cardio-oncology

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**Background:** Cancer patients have been shown to have increased mortality with COVID-19 infection, particularly those with metastases. We sought to examine the cardiovascular comorbidities associated with cancer patients hospitalized with COVID-19 and their association with cardiovascular outcomes and mortality.

**Methods:** We performed a retrospective study of 3,272 hospitalized COVID-19 patients using the Yale New Haven Hospital COVID-19 database. Chi-square, and multivariate regression analyses were performed to assess the influence of cancer and presence of metastases on cardiovascular outcomes and mortality in COVID-19 patients.

**Results:** Patients with cancer were older, had more cardiovascular comorbidities, and greater in-hospital heart failure, atrial arrhythmia, and death (table). Metastases was present in 31.6% of cancer patients. On multivariate analysis, the presence of metastases increased the risk for in-hospital death (odds ratio, 1.92; 95% confidence interval, 1.13-3.25;  $P=0.016$ ), but neither cancer nor cancer with metastases was independently associated with in-hospital heart failure or arrhythmia.

**Conclusion:** Metastatic disease was independently associated with a higher risk of mortality in COVID-19 patients. Although cancer patients had higher cardiovascular co-morbidities, neither cancer nor metastatic disease was independently associated with increased risk of heart failure or atrial arrhythmia in the setting of COVID-19 infection.

Table: Demographics, co-morbidities and outcomes

Demographics	Cancer (n=495)	No Cancer (n=2867)	P
<b>Age (Years)</b>			<0.0001
Mean ± SD	74.5 ± 12.31	61.6 ± 19.23	
<b>BMI (kg/m)</b>			0.0003
Mean ± SD	28.34 ± 7.287	29.80 ± 8.156	
<b>Gender - % (n/N)</b>			0.0232
Female	55.3% (224/405)	49.3% (1413/2867)	
Male	44.7% (181/405)	50.7% (1454/2867)	
<b>Race - % (n/N)</b>			<0.0001
Asian	2.2% (9/405)	2.0% (58/2867)	
Black or African American	25.4% (103/405)	26.3% (753/2867)	
Other	9.1% (37/405)	26.7% (765/2867)	
White or Caucasian	63.2% (256/405)	45.0% (1291/2867)	
<b>Ethnicity</b>			<0.0001
Latino - % (n/N)			
Yes	9.9% (40/405)	28.4% (813/2867)	
No	90.1% (365/405)	71.6% (2054/2867)	
<b>Metastasis</b>	31.6% (128/405)	0% (0/2867)	
<b>Comorbidities</b>			
Heart failure	38.3% (155/405)	21.7% (621/2867)	<0.0001
Arrhythmia	55.6% (225/405)	35.6% (1021/2867)	<0.0001
Myocardial infarction	21.5% (87/405)	12.1% (346/2867)	<0.0001
Stroke	31.9% (129/405)	16.0% (459/2867)	<0.0001
Valve disease	30.1% (122/405)	14.2% (407/2867)	<0.0001
PVD	29.9% (121/405)	17.2% (493/2867)	<0.0001
Pulmonary disease	18.8% (76/405)	9.8% (282/2867)	<0.0001
HTN	88.4% (358/405)	61.4% (1760/2867)	<0.0001
Diabetes	48.4% (196/405)	35.9% (1029/2867)	<0.0001
Obesity	40.2% (163/405)	31.6% (907/2867)	0.0005
ESRD	5.4% (22/405)	5.4% (155/2867)	0.9829
CKD	36.0% (146/405)	21.2% (608/2867)	<0.0001
<b>In Hospital Outcomes</b>			
Death	24.4% (99/405)	15.1% (434/2867)	<0.0001
Pericarditis	0.0% (0/405)	0.2% (5/2867)	0.4003
Myocarditis	0.2% (1/405)	0.3% (8/2867)	0.9080
Heart failure	30.4% (123/405)	18.3% (526/2867)	<0.0001
Arrhythmia	4.9% (20/405)	3.3% (94/2867)	0.0882
(ventricular, SVT)			
Bradycardia	2.2% (9/405)	3.3% (96/2867)	0.2287
Afib/Flutter	26.4% (107/405)	17.5% (501/2867)	<0.0001
Stroke	2.5% (10/405)	1.9% (54/2867)	0.4257
TIA	0.5% (2/405)	0.3% (9/2867)	0.5582

Multivariate regression: Death as outcome

	Odds ratio	95% CI	P
Metastatic cancer	1.92	1.12-3.29	0.018
Cancer	0.87	0.61-1.24	0.446

PVD= peripheral vascular disease, HTN= hypertension, ESRD = end stage renal disease, CKD = chronic kidney disease, SVT= supraventricular tachycardia, TIA = transient ischemic attack, CI= confidence interval