



# The Risk of Severe/Critical COVID-19 Infection in Patients Diagnosed with Solid Malignancies: Two center experience from Armenia



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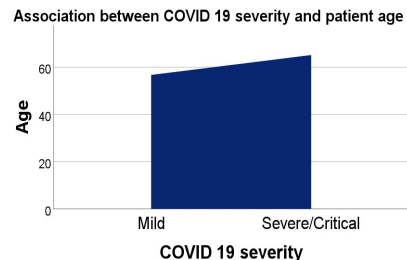
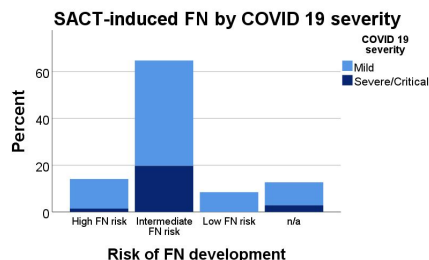
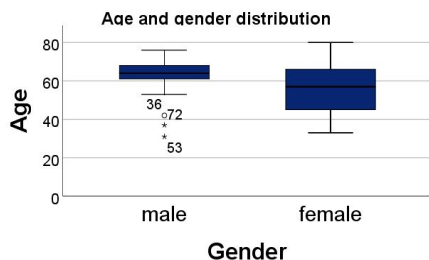
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**Background:** Nowadays, the data on Coronavirus Disease 2019 (COVID-19) among cancer patients is controversial. It is debatable whether cancer patients are at a significantly higher risk of severe and critical COVID-19. The current study aims to assess the risk of severe and critical COVID-19 cases among patients receiving systemic anticancer treatment (SACT).

**Methods:** This was a retrospective cohort study utilizing census sampling. The data was obtained through medical records. Inclusion criteria: COVID-19 diagnosis through RT-PCR/chest CT among those who received SACT in the Chemotherapy Departments of Hematology Center after prof. Yeolyan and Institute of Surgery after Mikaelyan Yerevan, Armenia between March 1, 2020, and February 1, 2021. Descriptive analysis was done to characterize the cohort. We run logistic regression to evaluate the risk of COVID-19 severity (*mild, severe/critical*) among those receiving SACT (*high, intermediate, and low-risk protocols of febrile neutropenia (FN), age, gender, smoking status, comorbidities*).

**Results:** In total 75 cancer patients were diagnosed with COVID-19 in both centers. Data of only 72 patients were analyzed, as the outcome variable of the excluded patients was unknown. The patients received SACT with high (13.9 %), intermediate (63.9 %), and low (8.3 %) risk for FN. The others did not receive SACT at the moment of COVID-19 diagnosis. Infection-associated pneumonia was developed in 63% of cases. Mild COVID-19 was diagnosed in 76.4% and severe/critical in 23.6% of cases. Infected patients' hospitalization rate was 28%. The case fatality rate was 8%. Only patients who underwent SACT at the time of COVID-19 infection were included in logistic regression analysis (n=62). Significant association between COVID-19 severity and the risk of SACT-induced FN, gender, smoking status, comorbidities was not found. Contrary, COVID-19 severity was significantly associated with age when adjusted to other predictors ( $p=0.017$ , 95% CI = 1.021-1.230).



**Conclusion:** Thus, we demonstrate the lack of rationale to reschedule SACT during the pandemic as it does not affect the COVID-19 severity and may bring unnecessary treatment delays.

**Disclosure statement:** no conflicts of interest to declare