

AB013. Occurrence and severity of COVID-19 in patients affected by thymic epithelial tumors with or without Good's syndrome: a single centre experience

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Background: Good's syndrome (GS) is a rare immunodeficiency (6–11%) associated with thymic epithelial tumors (TETs), defined by the presence of recurrent infections due to encapsulated bacteria, fungi and viruses, hypogammaglobulinemia, low or absent B cells, abnormal CD4/CD8 T cell ratio, CD4 T cell lymphopenia and impaired T cell mitogenic responses. Currently, there are no data on occurrence and severity of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in particularly frail patients, such as those with TET and GS.

Methods: We retrospectively collected data on SARS-CoV-2 infection occurrence and severity of TET patients during corona virus disease 2019 (COVID-19) pandemic (from March 2020 to April 2023), who were referred to the Regional Coordination Center for Rare Tumors (CRCTR) of Campania Region (University Hospital of Naples Federico II). Clinical severity of COVID-19 was evaluated according to the National Institute of Health (NIH) classification scale.

Results: A total of 47 TET patients were included in the analysis. Thirty-eight (81.0%) had thymoma, 8 thymic carcinoma (17.0%), and (2.0%) neuroendocrine tumor; 29 (61.7%) suffered from GS. All patients received a full cycle of mRNA vaccine. Overall, 31 (66.0%) patients experienced acute COVID-19 during the observation period. No statistically significant correlation was found between GS and occurrence of SARS-CoV-2 infection ($P=0.5406$). The median NIH score of COVID-19 severity was 2 in the overall population; no patient died. Among the 18 patients with GS, 10 (55.6%) had an NIH score of 2, 4 (22.2%) had an NIH score of 3, 1 (5.6%) had an NIH score of 4, and 3 (16.6%) had an NIH score 5, and thus required hospitalization. On the other hand, among the 13 patients without GS, 12 (92.3%) had an NIH score of 2 and 1 (7.7%) an NIH score of 3; no patient required either oxygen support or hospitalization.

Conclusions: We observed an overall higher severity of acute COVID-19 among TET patients with GS as compared to those without GS. Despite the small sample size, our findings suggest the need of dedicated multidisciplinary management of COVID-19, as well as other infectious diseases in particularly frail patients, such as those with TET and GS.

Keywords: Thymic epithelial tumors (TETs); severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2); Good's syndrome (GS)

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Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. The study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). The study was approved by the Ethical Committee of University of Naples Federico II protocol # 201/20 and individual consent for this retrospective analysis was waived.

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