

AB007. Preliminary data of immunogenicity of SARS-COV-2 mRNA vaccine in thymic epithelial tumors

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Background: Thymic epithelial tumors (TETs) are rare malignancies associated with dysregulation of the immune system with humoral and cell mediated immunity abnormalities. Anti-syndrome coronavirus type 2 (SARS-CoV-2) vaccine is effective at preventing COVID-19 morbidity and mortality. No published data are available regarding the immunization in TET patients. The aim of our study is evaluating immunization in TET patients, who received both doses of mRNA vaccine, by longitudinal serological detection of SARS-COV-2 spike-binding IgG antibody.

Methods: Starting from 14 April 2021, we enrolled 50 TET patients (pts), who received COVID-19 mRNA vaccine (BNT162b2 by Pfizer-BioNTech). SARS-CoV-2 spike-binding IgG antibody serological levels were

analysed by chemiluminescent immunoassay (CLIA) at different time-points: T0 (before the first vaccine dose), T1 (1 week after second dose), T2 (4 weeks after second dose), and late monitoring T3, T4, T5, T6 (at 3, 6, 9, 12 months after second dose, respectively). Preliminary data relative to 12 pts, collected at T0, T1 and T2, were available for this report. Local ethical committee approved this study and all enrolled patients signed informed consent.

Results: Among the 12 patients, 8 were female and 4 males; 9 pts had thymoma and 3 thymic carcinomas; myasthenia gravis (autoimmunity) was diagnosed in one patient, and 4 patients suffered from Good Syndrome (immunodeficiency). None had COVID-19 infection prior to immunization. All 12 pts had received both vaccine doses by the time of this analysis. At baseline, all pts were negative for the serological antibody titers (method range, 3.80–400 AU/mL, positivity for titer >25); at T1, 11 pts (92%) were negative; at T2, 10 pts (84%) remained negative. Interestingly, the only 2 pts with positive titers at T2 were both in remission of disease.

Conclusions: Our preliminary data showed that the majority of TET patients enrolled in this study had no seroconversion after 4 weeks from the second dose of COVID 19 vaccine. Despite preliminary, our data might have important implications for the immunization of TET patients.

Keywords: Syndrome coronavirus type 2 (SARS-CoV-2); mRNA vaccine; thymic epithelial tumors (TETs)

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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.

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