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Editorial

Patients with Lung Cancer Receiving Immune Checkpoint Inhibitors: Safety and Immunogenicity of mRNA-COVID-19 Vaccination

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Currently, in cancer or lung-cancer patients, immune checkpoint inhibitors (ICIs), such as anti-CTLA-4, anti-programmed cell death protein 1 (PD-1), anti-programmed death-ligand 1 (PD-L1) antibodies, etc. are widely prescribed as single agent or in combination with other anticancer- treatment modalities [1]. Due to immune-associated adverse events (iaAEs), these ICIs can facilitate antitumor effects, such as interstitial pneumonitis, endocrine-gland-disorders-associated abnormal hormone secretion [2] that can be caused and aggravated by mRNA-based-COVID-19 vaccines (Figure 1) [1,3].

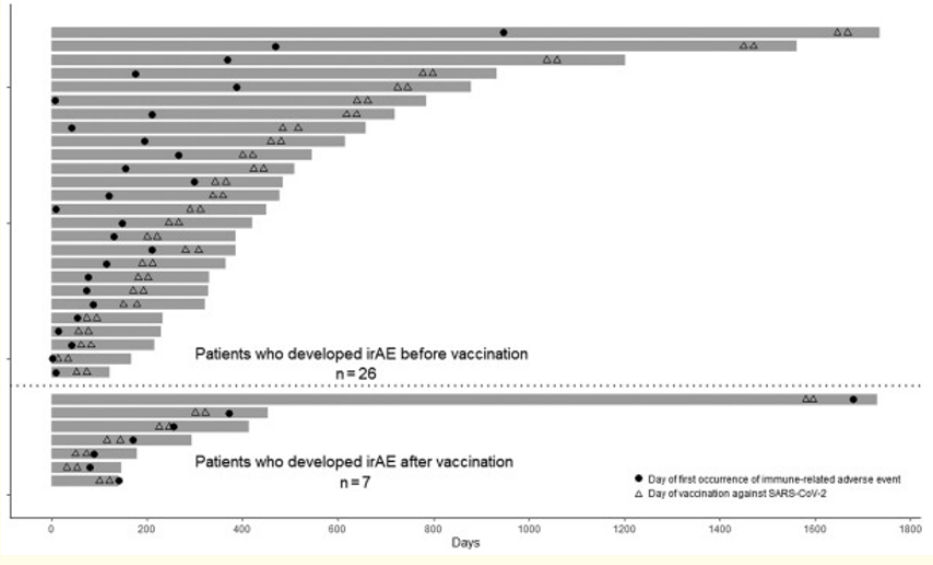

Figure 1: Demonstrating swimmer plot of patients who developed an iaAE/irAE. The swimmer plot reveals the total observation period (d) from the start date of the ICI treatment regimen to the end date of observation. The dates of the two doses of mRNA vaccine against SARS-CoV-2 (COVID-19) are indicated by triangles, and the date of onset of an iaAE/irAE is indicated by a dot for each of the 26 patients who developed an iaAE/irAE before vaccination and the seven patients who developed an iaAE/irAE after vaccination [1]. (ICI: immune checkpoint inhibitor; iaAE: immune-associated adverse event; irAE: immune-related adverse event; mRNA: messenger Ribonucleic Acid, SARS-CoV-2: severe acute respiratory syndrome coronavirus 2 (COVID-19).

In conclusion, COVID-19 vaccination, particularly, mRNA-COVID-19 vaccination among ICIs-treated-lung-cancer patients should be assessed due to being classified as a vulnerable population.

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