

**MetroHealth Medical Center**

**RESEARCH DAY 2023**

**Abstract Submission Form**

**Poster Title:** Prevalence of Zoster Infection Post mRNA COVID-19 Vaccination Compared to Influenza Vaccination

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**Introduction:** Varicella-zoster virus (VZV) reactivation was not listed as a side effect of any vaccine until introduction of COVID-19 vaccines. Since COVID-19 vaccines were introduced, several case reports described the link between COVID-19 vaccination and VZV reactivation. In our study we aimed to investigate how often patients developed VZV reactivation after mRNA COVID-19 vaccine compared to influenza vaccine.

**Methods:** We used the TriNetX platform and its global health research network containing aggregated de-identified information of electronic health records on over 100 million patients from scores of healthcare organizations. Three patient groups were identified:

Patients receiving their 1<sup>st</sup> mRNA COVID-19 vaccine 12/20/2020-12/20/2022

Patients receiving their 2<sup>nd</sup> mRNA COVID-19 vaccine 12/20/2020-12/20/2022

Patients receiving influenza vaccine 12/20/2018-12/20/2022

Propensity Score Matching was used for age, gender, and Zoster vaccine status. We examined the prevalence of VZV reactivation in each group during the first 21 days following vaccination.

**Results:** Out of 444,016 patients in each matched group receiving either their 1<sup>st</sup> mRNA COVID-19 vaccine or the Influenza vaccine, 0.04% in the COVID-19 vaccine group and 0.15% in the influenza group, odds ratio (OR) 0.24 (95% CI 0.20-0.29), were diagnosed with VZV reactivation within 21 days. Among 445,382 patients in each matched group receiving either their 2<sup>nd</sup> mRNA COVID-19 vaccine or their influenza vaccine, 0.04% in the COVID-19 vaccine group and 0.13% in the Influenza group, OR 0.27 (95% CI 0.22-0.32), were diagnosed with VZV reactivation within 21 days. There was a lower risk of VZV reactivation after 1<sup>st</sup> or 2<sup>nd</sup> dose of mRNA COVID-19 vaccine than influenza vaccine.

**Conclusion:** The risk of VZV reactivation after the 1<sup>st</sup> or 2<sup>nd</sup> dose of mRNA COVID-19 vaccination is smaller than VZX reactivation after influenza vaccine. The risk of VZV reactivation after mRNA COVID-19 vaccine is very low and hesitance to receive COVID-19 vaccine due to concern of VZV reactivation is not substantiated.