

Oral Abstract 20: COVID-19 mRNA vaccination improves survival in patients with endometrial cancer undergoing therapy with immune checkpoint inhibitors

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Topic

Endometrial

Objectives

COVID-19 mRNA vaccine receipt before starting an immune checkpoint inhibitor (ICI) recently was shown to improve survival in patients with non-small cell lung cancer (NSCLC) and melanoma but has not been studied in patients with other malignancies. We aim to explore this potential association in patients diagnosed with endometrial cancer receiving ICIs.

Methods

We conducted a retrospective cohort study of patients diagnosed with endometrial cancer at a single institution who received at least 3 ICI cycles between 2020-2025. The main outcome measure was overall survival (OS). Secondary outcomes included adjusted progression-free survival (aPFS) and adjusted overall survival (aOS), with the date of ICI initiation set as the starting point for survival calculations. Survival analyses were conducted via Kaplan-Meier with log-rank, and Cox models were used for multivariable analysis.

Results

We included 187 patients in the final cohort, with a median follow-up of 35.2 months. Most patients had a high-risk histology (n=118, 63%), advanced-stage disease (n=128, 68%), and received ICI in the recurrent setting (n=101, 54%). The most common ICI was pembrolizumab (n=181, 97%). Out of 154 vaccinated patients (82%), 58 (31%) received ≥ 1 COVID-19 mRNA vaccine dose within 90 days before or during ICI treatment. Overall, vaccinated patients within 90 days of ICI initiation had a longer median OS (123.8 v 77.0 months, $p=0.01$) and aOS (62.5 v 47.8 months, $p=0.02$), though aPFS (20.1 v 18.4 months, $p=0.6$) was not different. This association with improved OS and aOS was also observed when the vaccination window was extended to 180 days before ICI, and also any time before ICI (Figure 1). On multivariable analysis, vaccination within 90 and 180 days were both independently associated with improved OS (90d aHR 0.53, 95% CI 0.28-0.96; 180d aHR 0.54, 95% CI 0.30-0.95) and aOS (90d aHR 0.49, 95% CI 0.24-0.94; 180d aHR 0.53, 95% CI 0.27-0.99).

Conclusions

COVID-19 mRNA vaccination was associated with improved OS and aOS in patients undergoing ICI for endometrial cancer. Our data support the potential inclusion of mRNA vaccines into future clinical trial protocols as either an adjunctive intervention or stratification variable. Further, this positive association with longer survival may be tumor-agnostic and should be investigated in other cancer types.

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