

COVID-19 vaccination in patients with renal cancer receiving immune checkpoint inhibitors

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BACKGROUND

- Patients with cancer are at high risk for severe COVID-19 disease and mortality.¹
- Patients on active cancer treatment, including immune checkpoint inhibitors (ICI), were excluded from COVID-19 vaccine trials.^{2,3}
- American Society of Clinical Oncology (ASCO), National Comprehensive Cancer Network (NCCN), and European Society for Medical Oncology (ESMO) generally recommend vaccination of patients with cancer against COVID-19.^{4,5,6}
- Safety and efficacy of COVID-19 vaccination in patients with renal cell carcinoma (RCC) receiving ICIs is not well described.

OBJECTIVES

- Characterize a population of patients with RCC on ICIs who underwent vaccination against COVID-19 in real world practice
- Describe side effects of COVID-19 vaccination in patients with RCC receiving ICIs
- Describe incidence and type of severe immune related adverse events (irAE) in patients who received COVID-19 vaccination
- Identify rates of COVID-19 infection after vaccination

METHODS

- Chart review of patients with RCC who received at least one dose of an FDA-authorized COVID-19 vaccine (vax+) between 12/1/2020 and 4/1/2021 at Duke University with at least 3 months documented follow up.
- 2 patient cohorts:
 - Patients with RCC receiving ICI (ICI+)
 - Patients with history of RCC not receiving systemic cancer therapy (controls)
- Collected patient and treatment characteristics
- Outcomes:
 - Adverse events attributed to vaccination
 - Immune related adverse events (irAE) following vaccination
 - Subsequent COVID-19 infection

RESULTS

Patient Demographics

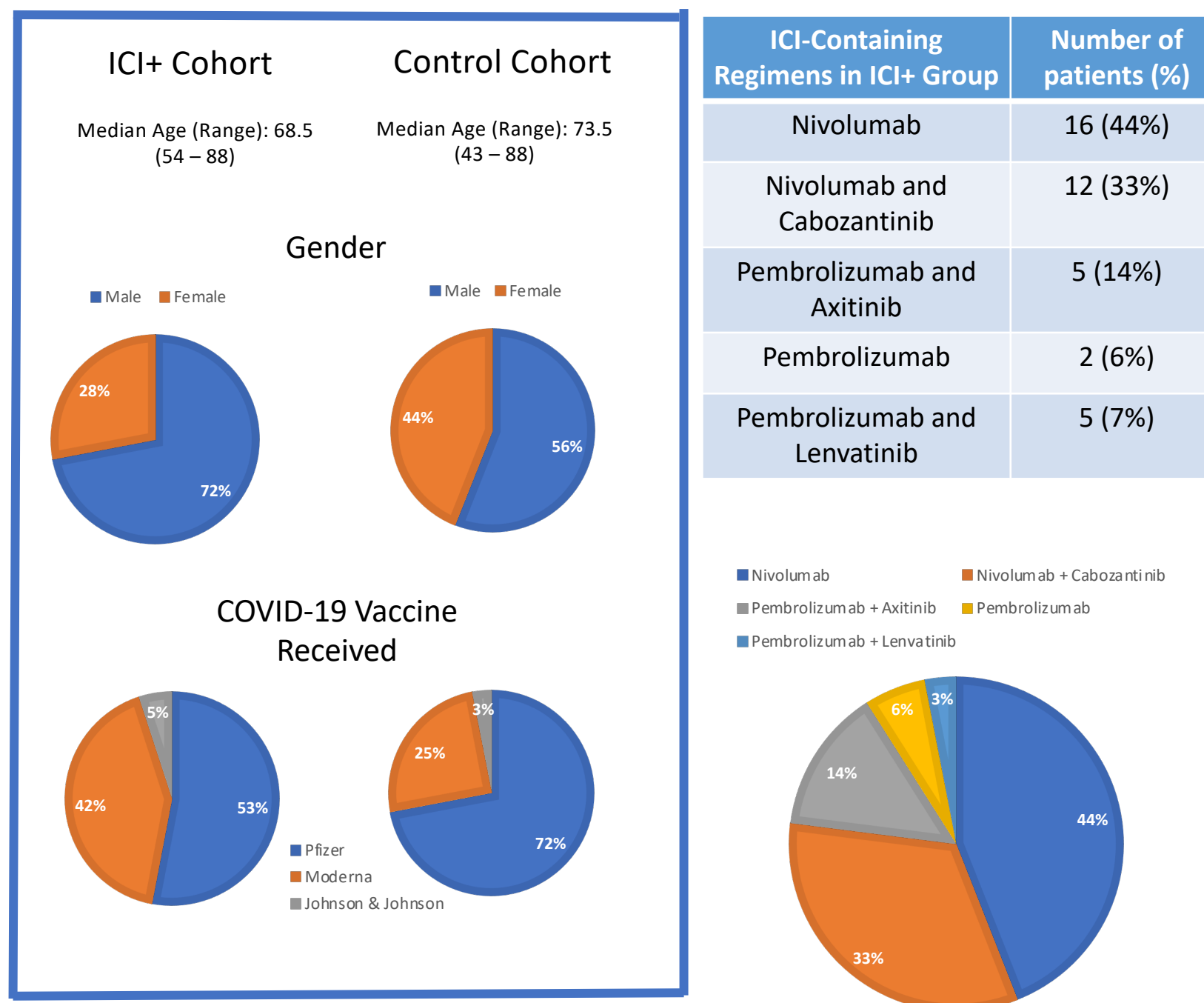
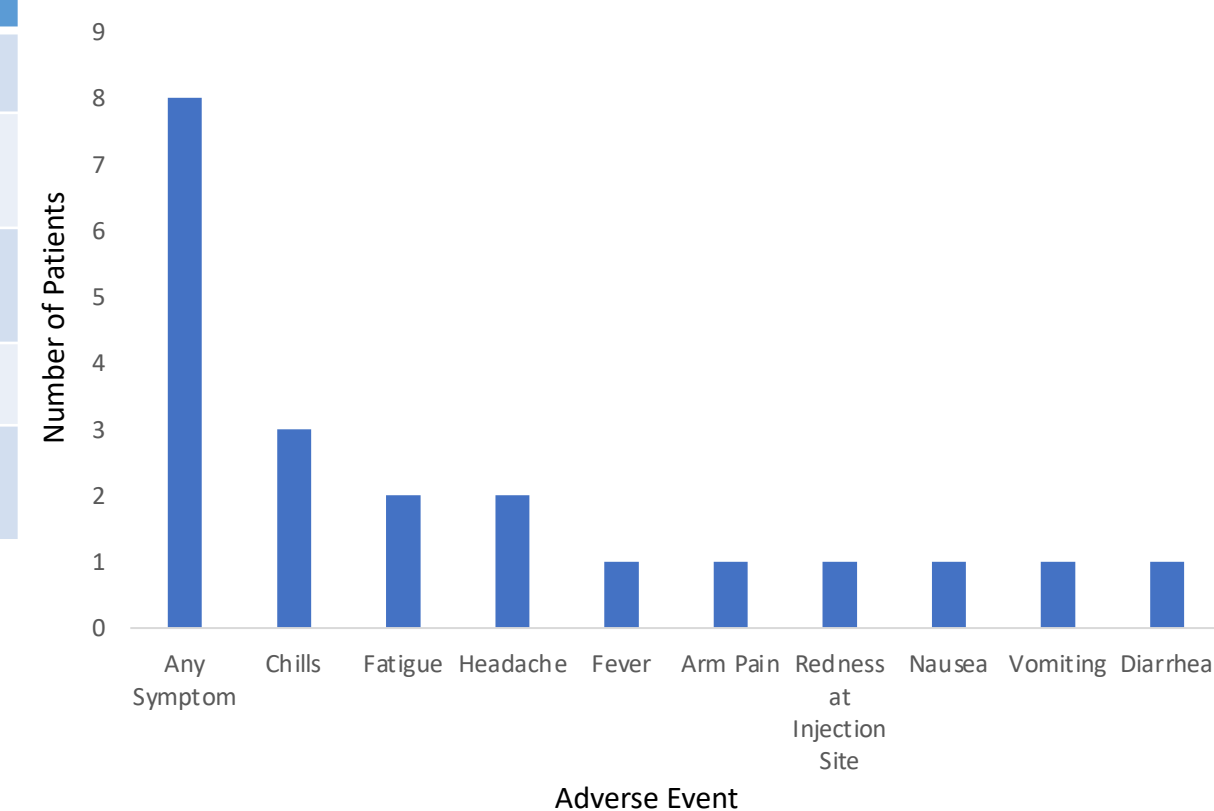


Figure 1. Adverse events reported by ICI+ patients in 14 days following vaccination. N=36.



- 36 patients receiving ICI (ICI+) and 36 control patients (vax + not on treatment) were identified.
- Patients were on ICI for median 333 days prior to first vaccine dose (range: -13 –1320 days).
- 8 patients (22%) in ICI+ group experienced at least 1 commonly reported adverse event after vaccination (Figure 1).
- 1 patient in the control group developed PVCs post-vaccination.
- **2 patients (6%) on an ICI developed a new or worsening irAE requiring systemic steroids and/or treatment hold.** 1 patient developed adrenal insufficiency and one patient developed colitis.
- 1 ICI+ patients (3%) developed COVID-19 infection after 1 vaccine dose. **No patients developed COVID-19 infection after 2 vaccine doses.**

CONCLUSIONS

- In a population of patients with RCC receiving ICI therapy, COVID-19 vaccination appears to be well tolerated and safe.
- Higher rate of post-vaccination symptoms reported in ICI+ patients is likely related to more frequent visits compared to controls. Higher rates of post-vaccination symptoms were seen in COVID-19 vaccination trials.^{2,3}
- The rate of new or worsening irAEs post-vaccination is no higher than historically reported.^{7,8}
- Ongoing survey underway for patient-reported vaccine reactivity rates.
- In solid tumor populations at higher risk for severe COVID-19 infections, vaccination is important to mitigate this risk, and these data support the safety of vaccination in patients receiving ICIs.

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