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 COVID19 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

<table>
<thead>
<tr>
<th>ICI+ Cohort</th>
<th>Control Cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Age (Range): 68.5 (54 – 88)</td>
<td>Median Age (Range): 73.5 (43 – 88)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ICI-Containing Regimens in ICI+ Group</th>
<th>Number of patients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nivolumab</td>
<td>16 (44%)</td>
</tr>
<tr>
<td>Nivolumab and Cabozantinib</td>
<td>12 (33%)</td>
</tr>
<tr>
<td>Pembrolizumab and Axitinib</td>
<td>5 (14%)</td>
</tr>
<tr>
<td>Pembrolizumab</td>
<td>2 (6%)</td>
</tr>
<tr>
<td>Pembrolizumab and Lenvatinib</td>
<td>5 (7%)</td>
</tr>
</tbody>
</table>

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 trials2,3
• The rate of new or worsening IRAEs post-vaccination is no higher than historically reported7,8
• Ongoing survey underway for patient-reported vaccine reactogenicity rates.
• In solid tumor populations at higher risk for severe COVID19 infections, vaccination is important to mitigate this risk, and these data support the safety of vaccination in patients receiving ICIs.

REFERENCES


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