IMMUNOTHERAPY-RELATED TOXICITIES AND RENAL CELL CARCINOMA

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RESEARCH QUESTION

What are the barriers to recognizing and diagnosing immunotherapy related toxicities and how does prompt initiation of steroids improve patient outcomes?

BACKGROUND

According to National Comprehensive Cancer Network (NCCN guidelines), "Corticosteroids are the mainstay of treatment for most high-grade immunotherapy-related adverse events (irAEs) and short-term use of corticosteroids to treat irAEs has not been shown to reduce anti-tumor efficacy."[1] Immunotherapy is used to boost one's immune system response to target cancer cells. Prompt holding of these agents and initiation of steroids cause suppression of the immune therapy related toxicities to alleviate conditions. Our study focuses on renal cell carcinoma (RCC), and the immunotherapies ipilimumab, pembrolizumab, and nivolumab, to identify barriers in the onset of steroid treatment and identify and test interventions that can help providers and patients identify toxicities and begin steroid treatment as soon as possible.

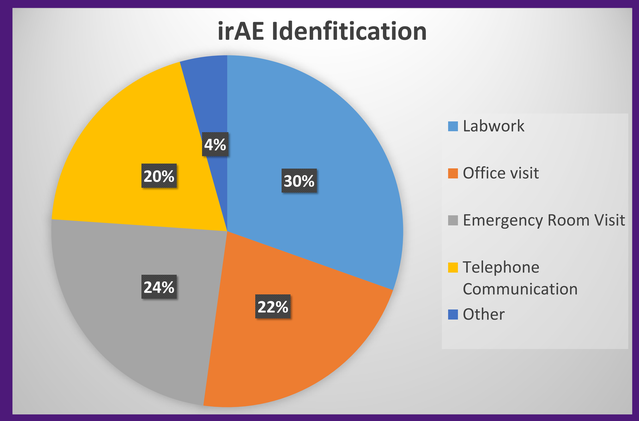
METHODS

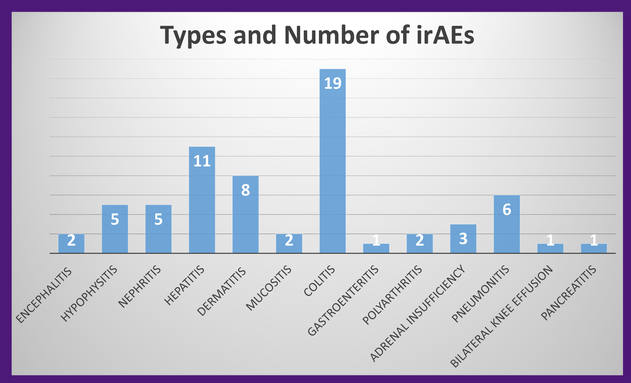
Patient Identification:
- A patient under the direct care of UTSW Moncrief Cancer Institute.
- Between the ages of 18-75 at diagnosis.
- Received a diagnosis of advanced stage renal cell carcinoma.
- Prescribed one of the following medications: ipilimumab, pembrolizumab, nivolumab.

Data Collection:
- Using Epic database for UTSW Hospitals, the following variables were extracted and de-identified: M/F, age, diagnosis, cancer stage, comorbidities, immunotherapy (type, dosage, duration), toxicity (date identified, type, hospitalization), steroid treatment (type, dosage, duration, taper), date immunotherapy re-start, resolution of toxicity symptoms, barrier to toxicity identification/steroid onset, patient outcome (hospitalizations, deceased, progression of disease).

Data Analysis:
- After collection of data, analysis was completed looking for relationships between patient identifiers, barriers to steroid initiation, and toxicity identification.

The most effective way to quickly catch immunotherapy-related toxicities in patients with renal cell carcinoma is routine lab work.





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RESULTS

Upon review of 201 patients with renal cell carcinoma (RCC) stage III/IV, the most common toxicity found was colitis (28.4%), followed by transaminitis (9.0%) and pneumonitis (9.0%). The most common methods for identification of toxicities were routine lab work performed before immunotherapy administration (30.4%), check-ins at regularly scheduled appointments (21.7%), and after-hour physician telephone lines (19.6%). Additionally, the average time from irAE identification to steroid administration was 1.45 days. Excluding toxicities found either at office appointments or on routine lab work, the average time to steroids from identification was 3.55 days.

FUTURE DIRECTIONS

It was clear from this study that the systems put in place, i.e. lab work and office visits, did a good job at identifying over half of all irAEs in the last five years. It is the remaining 40-45% of patients that further education could help identify irAEs and decrease the time it takes for them to receive appropriate steroid treatment.

Our hope is that the research conducted in this study can be used as a blueprint for other avenues within the oncology space. Immunotherapies are a rising treatment option for many solid organ tumors, and immunotherapy adverse events are a common risk for these options. Identifying what these patients are most likely to experience and identifying how to help patients receive appropriate and timely care is crucial to their overall treatment.

REFERENCES

1. Network NCC. Management of Immunotherapy-Related Toxicities (Version 3.2021). https://www.nccn.org/professionals/physician_gls/pdf/immunotherapy.pdf.Accessed September 17, 2021.