1269 IMMUNOTHERAPY (IO) ASSOCIATED ACUTE INTERSTITIAL NEPHRITIS, AND OUTCOMES AFTER RE-CHALLENGE: A SINGLE CENTER EXPERIENCE

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Background Immune check-point inhibitor (ICI) associated acute interstitial nephritis is a rare side effect of IO and literature on IO re-challenge in these patients remain unknown.

Methods We performed a retrospective review of patients who received IO and developed biopsy-proven or clinically suspected ICI associated AIN between January 2003- September, 2022 at the University of Virginia, Emily Couric Clinical Cancer Center. We analyzed details regarding diagnosis, concomitant medications & comorbidities, baseline patient characteristics, clinical course, management, rates of treatment interruption and re-challenge and subsequent outcome. Complete recovery (CRc) was defined as return of kidney function to baseline; partial recovery (PRc) defined as improvement in serum creatinine but >0.3mg/dL from baseline-< 2 x baseline.

Results A total of 1979 patients receive ICI therapy for various indications. Of these, 4 cases of biopsy proven (33%) or 8 (66%) clinically suspected ICI associated AIN were identified. Median age was 69 years (57–86), M:F ratio was 2:1 and 9 (75%) were White. Median BMI was 28 (21–39). Most frequent cancers were NSCLC (42%), RCC (33.3%) and melanoma (16.7%). 20% (n= 2) received combination anti-CTLA4 plus anti- PD1, 50% (n=6) received anti-PD1 alone and 30% (n=4) received chemo-immunotherapy. 25% (n=3) patients were on NSAIDS, 42% (n=5) on PPI concomitantly. Intent of IO was adjuvant in 30% patients and palliative for 70% of patients. Median number of infusions before AIN onset was 9 (3–31), and 58% (n=7) developed AIN within first 5 cycles. 66% (n=8) developed $\geq$ G3 AKI. 4/12 patient underwent renal biopsy, and 11/12 had nephrology consultation. IO was interrupted in 4 (30%) patients, permanently discontinued in 7 pts (58%). Median duration of IO interruption was 221 days, median duration of steroid use was 4.5 weeks. Rate of CRc and PRc were 66% and 8%, respectively. Additional irAE was seen in 50% of patients (concurrent in 2pts, subsequent in 4 pts). IO was resumed in 30% (n=4) of pts. 3 (25)% patients continued to receive ICI therapy following rechallenge till PD/additional irAE or therapy completion. At the time of AIN onset, best disease response was SD in 5 pts, PR in 3 pts, and PD in 3 pts. Median overall survival was 4.87 years and performance free survival was 1.5 years.

Conclusions Re-challenge of IO after kidney irAE is possible in a proportion of patients and needs careful evaluation on an individual basis.

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Ethics Approval This work was reviewed by the University of Virginia Institutional Review Board and was approved according to protocol # HSR 24436.

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