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Introduction & Objectives: Immunotherapy has been established as the standard of care in many uro-oncological tumor entities. Immune-related adverse events (irAE) often resolve under current management but can also lead to discontinuation of immunotherapies with unclear outcomes.

Materials & Methods: We retrospectively analyzed patients undergoing immunotherapy for advanced urooncological malignancies at a large academic institution with a highly specialized Comprehensive Cancer Center (CCC). Patients were treated and follow-up up at a large university hospital center with a specialized outpatient uro-oncology care unit. Grading for irAE was performed according to the Common Terminology Criteria for Adverse Events (CTCAE) Version version 5.0. Radiological response assessment was performed according to the response evaluation criteria in solid tumors (RECIST) version 1.1. Response 1 (R1) was measured between start of immunotherapy and the discontinuation of immunotherapy. Response 2 (R2) was measured between discontinuation and progressive disease, death or loss to follow-up. Kaplan-Meier-Method was used to calculate progression free survival (PFS) and overall survival (OS).

Results: Between 2016 and 2021, 21 patients were discontinued on immunotherapy due to irAE. Median age at the time of immunotherapy start was 73 (43-87) years. 11 patients had a metastatic RCC and 10 patients a metastatic UC. 12 patients received pembrolizumab (2 with axitinib, 1 with cisplatin/etoposide), 3 patients nivolumab and ipilimumab and 6 patients nivolumab monotherapy. Median PFS was 37 months and median OS 45 months. Under immunotherapy (R1) 3 patients revealed a complete remission (CR), 9 patients a partial remission (PR), 3 patients stable disease (SD), 1 patient a mixed response (MR) and one patient progressed (PD). After discontinuation 6 patients revealed CR, 6 patients PR, 6 patients SD, 1 patient MR and 2 patients PD as best response. Median time of R1 was 6 (0-33) months and median time of R2 was 14 (0-34) months.

Conclusions: irAE are frequent in urooncological patients undergoing immunotherapy, but discontinuation of immunotherapy is rare. Despite discontinuation, patients can experience long and durable responses. Further research is warranted to explore predictors of this phenomenon in prospective cohorts.