Background ICI revolutionized modern Oncology landscape and being utilized in metastatic to adjuvant and neo-adjuvant settings. As Oncologists, we are treating cancer patients with ICI every day, yet there is still a lot that is unknown about these drugs. We don’t have clear understanding of the efficacy and toxicity when sequencing one ICI for another. We conducted a retrospective review of real world data at Lahey Hospital and Medical Center to understand further and to pave path for prospective studies to understand this issue further to improve patient care.

Methods We retrospectively reviewed Oncology patient charts who received ICI between January 1, 2014 to December 18, 2018. Total 483 patients received ICI during this time frame and 22 of these patients received a second ICI either as monotherapy or in combination with other ICI or chemotherapy.

Results A total of 22 patients received subsequent ICI after the initial ICI as showed in table 1. 15 of the 22 (68%) patients were transitioned from one ICI to another monotherapy. 11 of these patients were transitioned secondary to disease progression (73%), three had immune related adverse events and one was switched per standard of care. One patient had ICI re-challenge. Three patients had a transition from ICI monotherapy to combination ICI therapy. One patient went onto chemo-immunotherapy and 2 patients transitioned from combination ICI to chemo-immunotherapy.

Conclusions ICI therapy is evolving and patients are being treated with multiple lines of ICI. In current practices, ICI is frequently being transitioned from cytotoxic T-lymphocyte antigen 4 (CTLA-4) and programmed cell death 1 (PD-1) or its ligand, programmed cell death ligand 1 (PD-L1) classes or frequently being transitioned from cytotoxic T-lymphocyte antigen 4 (CTLA-4) and programmed cell death 1 (PD-1) or its ligand, programmed cell death ligand 1 (PD-L1) classes or combined with chemotherapy or targeted therapy. It would be prudent to explore the effects of sequencing these medications either as a monotherapy or in combination with other therapies to better serve our patients and to prevent financial toxicity.

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