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897

INFUSION EPISODE-RELATED BENEFITS OF PEMBROLIZUMAB Q6W DOSING SCHEDULE FOR PATIENTS WITH MELANOMA TREATED IN THE ADJUVANT AND METASTATIC SETTINGS IN THE UNITED STATES (US)

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Background A new dosing schedule for pembrolizumab (400 mg every six weeks (Q6W)) received accelerated FDA approval in 2020 across all approved adult indications. The Q6W dosing schedule provides an opportunity to reduce the number of infusions required over the treatment course, thereby decreasing time and costs for health care providers, patients and their caregivers. This study quantified the potential infusion episode-related benefits of pembrolizumab Q6W regimen for the treatment of patients with melanoma in the adjuvant and metastatic settings in the US.

Methods An Excel-based tool was developed to quantify the infusion episode-related time and cost of using pembrolizumab Q6W compared to available nivolumab dosing regimens (Q4W/Q2W) to treat patients with melanoma in the adjuvant and metastatic settings from the patient, caregiver, provider, and payer perspectives. The number of infusion visits, time and costs were estimated considering a hypothetical infusion center. Time-related inputs were based on a survey of patients, physicians and nurses; cost-related inputs were obtained from published sources. Sensitivity analyses were performed to assess the robustness of results. Additional analyses assessed the impact of using alternative regimens with different frequencies of administration.

Results Based on the tool, pembrolizumab Q6W reduced the number of infusion visits (31%), time at the infusion center (41%) and chair time (31%) in total, over one year, versus nivolumab Q4W. Because fewer visits are needed, travel time is estimated to decrease by 31%. The infusion-related direct and indirect costs borne by patients and caregivers are projected to decrease by \$1,095 and \$2,272, respectively over a treatment course. For a typical US infusion center treating 169 melanoma patients per week over a 1-year period, using pembrolizumab Q6W rather than nivolumab Q4W is estimated to reduce the number of infusions by 2,729 (31% reduction) for a total of 3,802 fewer hours of infusion chair time, allowing the infusion center to increase patient capacity by up to 45% using currently available resources. Time and cost savings are more prominent when comparing with nivolumab Q2W: 5,757 fewer infusion events (66% reduction) and 8,062 less hours of chair time, which would increase the patient capacity by 2.9 times.

Conclusions Utilizing pembrolizumab Q6W to treat patients with melanoma in the US is expected to substantially reduce the number of infusion visits and associated chair time required over the duration of treatment, reducing the time and monetary burden for patients and their caregivers. Additionally, it may also improve system capacity.

<http://dx.doi.org/10.1136/jitc-2021-SITC2021.897>