Quality-Adjusted Time Without Symptoms of Disease Progression or Toxicity (Q-TWiST) of Nivolumab Plus Ipilimumab Versus Sunitinib Among Untreated Advanced Renal Cell Carcinoma Patients With Intermediate or Poor Prognostic Risk

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Introduction

• In the base case, the new case of renal cell carcinoma (RCC) was diagnosed globally, including 35% with advanced disease.
• Shading (UI) of a new case in advanced disease is recommended as a first-line therapy for patients with advanced RCC (ARCC).
• The toxicities (TOX) of the advanced RCC treatment arm were: aminotriazole (0.3–0.2%) for liver (Hep); in the United States and the European Union (EU) for the treatment of previously untreated ARCC in patients with intermediate or poor risk.
• This combination in a 1-year phase 1–2 comparing NIVO+IPI vs Sunitinib among previously untreated patients with ARCC.

• Among patients with International Metastatic Renal Cell Carcinoma Database Consortium (IMDC) intermediate or poor prognostic risk, the hazard ratios (HRs) for NIVO+IPI (vs Sunitinib) were:
  - 0.5–1.0: 3.1 (2.3–4.8) 13.3% (0.0–1.0)
  - 1.0–0.5: 15.2 (13.8–16.5) 12.1 (11.0–13.2)
  - 0.5–0.0: 3.1 (1.3–4.8) 13.3% (0.0–1.0)

• Understanding the clinical relevance of various oncology treatments from the patient’s perspective is of increasing interest to regulators.

Objective

• To compare the Q-TWiST of NIVO+IPI vs Sunitinib among previously untreated ARCC patients with IMDC intermediate or poor prognostic risk enrolled in the CheckMate 214 trial at a maximum follow-up of 45 months.

Methods

Data source

• Extended follow-up data from CheckMate 214 with minimum OS follow-up of 30 months and median OS follow-up of 34.4 months at data cutoff (August 2018).

Study population

• IMDC-intermediate-risk patients enrolled in CheckMate 214 who were randomized to either NIVO+IPI or Sunitinib.

Statistical analyses

• Q-TWiST assesses the overall quantity and quality of patient survival based on the amount of time spent in health states shown in Figure 1.

Q-TWiST studies across 13 different cancer types.10 The relative gains demonstrated in the Q-TWiST studies included in the systematic review are among the top 25% of published Q-TWiST studies included in the systematic review conclusion including grade ≥2 treatment-related AEs at maximum follow-up of 24 months (not shown in figure).

Table 3. Quality-adjusted OS for NIVO+IPI vs SUN and relative Q-TWiST gain for sensitivity analyses of threshold utility (UTOX) at 50% of all treated patients in the Q-TWiST analysis had progressed and were alive in the RHL state after month 42.

Table 2. Relative Q-TWiST gain and threshold utility analysis at maximum follow-up of 45 months

Table 1. Thresholded mean duration of health states at maximum follow-up of 45 months

Figure 1. Q-TWiST health states

Figure 2. Q-TWiST threshold utility analysis

Figure 3. Q-TWiST gain function over follow-up time

Conclusions

• NIVO+IPI provides a significantly longer Q-TWiST and higher quality-adjusted survival benefit compared with Sunitinib among previously untreated ARCC patients with intermediate or poor prognostic risk in the base case.

• In addition to the efficacy benefits from CheckMate 214, clinicians may also consider the quantity and quality of survival demonstrated here using the Q-TWiST approach in the individual patient–provider treatment decision-making process.

References


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