Real-world treatment patterns and sequencing in patients with locally advanced or metastatic urothelial cancer (la/mUC) in the US

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SCOPE
- This study aimed to describe baseline demographic and clinical characteristics, real-world treatment patterns, and treatment sequencing in patients with la/mUC in the US.
- Characterizing the patient population to determine how avelumab’s approval has impacted treatment sequencing was a key objective of this analysis.

CONCLUSIONS
- The treatment patterns observed are consistent with known and evolving treatment paradigms in la/mUC.
- 77% of patients received systemic anticancer treatment following la/mUC diagnosis; among them, most patients (42%) received guideline-recommended first-line (1L) platinum-based chemotherapy (PBC).
- The use of PBC has increased and the use of immuno-oncology (IO) therapy and non-PBC has decreased in the 1L setting from 2016 to 2022.
- Post-avelumab approval, in patients receiving IO therapy as subsequent treatment to PBC, 80% received IO therapy as first-line maintenance (1LM), of which 84% received avelumab 1LM.
- High follow-up rates beyond 12 months were observed with only 33% of patients receiving second-line (2L) therapy, indicating the persistence of high unremit treatment needs.
- However, at the end of the follow-up period, 32% of patients remained on avelumab 1LM (post-approved).
- Enfortumab vedotin was the most commonly used 2L agent in patients who discontinued 1LM during the study period.
- Future real-world studies could provide further insight into the optimal sequencing of targeted therapies in this disease.

RESULTS

Patient population
- A total of 821 patients were included (Figure 2, from community oncology practices, national cancer centers (32%), and NCCN Cancer Network sites (32%).
- Baseline demographic and clinical characteristics in the final study cohort are summarized in Table 1.

Treatment patterns
- A total of 84 la/mUC patients (77%) received 1L systemic treatment of these, 34% (29/84) received PBC, 44% (37/84) received IO monotherapy, 77% (64/84) received non-PBC, and 5% (4/84) received other regimens (Table 2).
- Among all patients who received 1L, 64% (54/84) received PBC, the majority received chemotherapy (52%, 22/42), and most of the remaining patients received carboplatin (25%, 11/42).

METHODS

Data sources
- The retrospective observational study used the Tempus database, a longitudinal electronic health record (EHR) database, containing deidentified electronic medical records and institutional data captured by Tempus’ algorithms and curated data, which has led to updates in clinical guidelines.

Statistical analysis
- Demographic and clinical characteristics were summarized by descriptive statistics.
- Ethics approval:
- All patients in the real-world identified patient records. It was exempt from review and approval by ethics committees and the need for patient informed consent.

DISCLOSURES
- Neither the author nor any member of the editorial board has any conflicts of interest.
- M. Kearney, is an employee of the healthcare business of Merck KGaA, Darmstadt, Germany, and owns stock and other ownership interests in Merck KGaA, Darmstadt, Germany, Novartis, and UCB.
- S. Fragloglou, is an employee of EMD Serono and owns stock and other ownership interests in EMD Serono.
- K. Carson, is an employee of the healthcare business of Merck KGaA, Darmstadt, Germany, and owns stock and other ownership interests in Merck KGaA, Darmstadt, Germany, Novartis, and UCB.

BACKGROUND

-PBC is the preferred, first-line treatment for patients with la/mUC followed by IO therapy.
-PBC (carboplatin + gemcitabine) is recommended for patients with stage III/IV disease.
-Avelumab was approved for use in treatment-naive la/mUC by the FDA in June 2020.
-Avelumab is given with pembrolizumab (without subsequent IO therapy) as second-line treatment for patients with advanced urothelial cancer.
-IO therapy are rapidly evolving over recent years with the approval of various IO-facilitated tumor-directed therapies.

Figure 2. Study population

Figure 3. Trends in IO therapy over the study period (2016-2022) for the n=94 treated cohort (n=424)

Figure 4. Breakdown of 2L treatments after progression in 80 1L PM post-veluzumab approval

Figure 1. Algorithm to define 1LM and 2L IO therapy

Table 1. Baseline demographic and clinical characteristics in patients in the overall la/mUC cohort (N=821)

Table 2. Treatment patterns across lines of treatment

Table 3. Treatment sequencing