Evaluating oncologists' practice patterns and decision-making in locally advanced or metastatic urothelial carcinoma (la/mUC): the US physician PARADIGM study (part 2)

Frank X. Liu,[1] Halley Costantino,[2] Chiemeka Ike,[1] Shaloo Gupta,[2] Abhijeet Bhanegaonkar,[1] Sheena Thakkar,[3] Geeta Devgan,[3] Howard Katzenstein,[1] Shilpa Gupta[4]

[1]EMD Serono, Rockland, MA, USA; [2]Cerner Enviza, Malvern, PA, USA; [3]Pfizer, New York, NY, USA; [4]Taussig Cancer Institute, Cleveland Clinic Foundation, Cleveland, OH, USA

SCOPE

- This cross-sectional survey explored practice patterns for first-line (1L) treatment (tx), 1L maintenance therapy (1LM) and clinical decision-making in locally advanced or metastatic urothelial carcinoma (la/mUC) among US medical oncologists

CONCLUSIONS

- Among US oncologists, overall survival (OS), disease control rate (DCR), grade 3/4 adverse events (AEs), and institutional guidelines/pathways were factors associated with 1L tx and 1LM use
- These results provide an opportunity for increasing physician and patient/caregiver awareness about tx options
- Future studies are warranted to explore shared decision-making for optimal 1L tx and 1LM selection and to understand potential barriers to tx

GET POSTER PDF AND VIEW VIDEO PDF

To obtain a copy of the poster please scan this quick response (QR) code. Per ASCO requirements you will be redirected to the ASCO meeting site. Copies of this poster and any associated video or audio files obtained through this QR code are for personal use only and may not be reproduced without permission from ASCO® or the author of this poster.

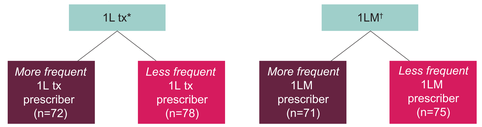
Correspondence: **Frank X. Liu**, frank.liu@emdserono.com

BACKGROUND

- Prior studies have shown that 40%-65% of patients with la/mUC do not receive 1L tx,[1-5] and up to 40% of patients who receive 1L tx are not treated with platinum-based chemotherapies[2,3,5-7]
- Avelumab, a PD-L1 inhibitor, is now the standard of care 1LM for patients with la/mUC whose disease has not progressed following tx with a platinum-containing chemotherapy[8,9]
- It is important to understand physician tx decision-making, practice patterns, and factors associated with the utilization of 1L chemotherapy and 1LM, including any potential barriers to tx

METHODS

- 150 US-based oncologists completed a 35-minute online survey (Sep-Oct 2021) on demographics, practice patterns, attributes considered in tx decision-making, and factors associated with 1L tx and 1LM utilization
- Physicians were categorized into 4 prespecified groups determined by the median cutoff:



Academic vs community physician practice setting (overall): 37% vs 63%.

1L, first-line; **1LM**, first-line maintenance; **tx**, treatment.

*1L tx: % of patients treated with 1L systemic tx. Physicians were defined as "more frequent 1L tx prescribers" if they reported >45.8% (range, 25%-89%) of their patients had been treated with 1L tx in the past 6 months based on the median split (n=150).

†1L Maintenance (1LM): % of patients eligible for and received 1LM. Physicians were defined as "more frequent 1LM prescribers" if they reported >71.4% (range, 0-100%) of their patients received 1LM in the past 6 months based on the median split (n=146).

- Attributes in 1L/1LM tx selection were evaluated for importance and to identify differences between the 4 prespecified groups

Table 1. Attributes evaluated across prespecified groups

Efficacy and safety	Others
Median OS	Inclusion in institutional guidelines/pathways
Median PFS	Discontinuation rate
PFS rate at 12 or 18 months	Route of administration
ORR*	Frequency of dosing
DCR†	Patient copay amount
Median duration of response	Ease of drug reimbursement process
Rate of grade 3/4 immune-mediated AEs	Can be used in other indications
Rate of grade 3/4 AEs	Prior immunotherapy (IO) (neoadjuvant/adjuvant)

AE, adverse event; **DCR**, disease control rate; **ORR**, overall response rate; **OS**, overall survival; **PFS**, progression-free survival.

* **ORR**: defined as the proportion of patients with complete or partial response.

† DCR defined as the proportion of patients with complete response, partial response, or stable disease.

- For categorical variables, chi-square tests were used to determine significant differences, and 1-way analysis of variances was conducted for continuous variables
- Bivariate analyses examined unadjusted differences between groups and helped inform the selection of covariates for multivariable modeling based on statistical significance and clinical meaningfulness. A significance threshold of a=0.05 was used
  - Bivariate analyses also assessed attributes (scored out of 100 points across a total of 16 attributes) that differed by more vs less frequent prescribers of 1L tx/1LM
- Multivariable bidirectional elimination stepwise logistic regression was used to assess factors associated with more/less frequent 1L tx or 1LM utilization. P values <0.05 and 2-tailed tests were considered statistically significant
- The multivariable regression model evaluated associations, not implying causal relationships

RESULTS

- Physician tx/practice patterns for 1L tx prescribers are shown in **Table 2** and for 1LM prescribers are shown in **Table 3**
- Key attributes used in 1L tx selection that differed among *more frequent* vs *less frequent* 1L tx/1LM prescribers are shown in **Figure 1**
- Factors associated with more/less frequent 1L tx and 1LM use assessed by multivariable logistic regression are shown in **Table 4**

Table 2. Physician-reported tx/practice patterns for 1L tx prescribers (n=150)

	Less frequent (≤45.8%) (n=78)	*More frequent* (>45.8%) (n=72)
Systemic drug regimens prescribed to patients with la/mUC in the past 6 months, %*,†,‡		
1L	36.6	55.7
2L	34.3	28.6
3L or later	28.8	15.2
Patients with la/mUC not treated with a systemic drug therapy, %*,†,‡	31.7	13.9
1L tx regimen prescribed to patients, %*†‡		
Cisplatin-based chemotherapy	46.6	52.0
Carboplatin-based chemotherapy	24.0	21.2
Non-platinum combination chemotherapy†	10.9	5.9
Chemotherapy monotherapy†	7.7	1.8
IO or targeted therapy†	10.9	19.3
Patients/caregivers not familiar with tx options, %,†‡	34.0	46.5
Preference for treatments with multiple approved indications, %†,§	61.5	41.7
Reliance on clinical trial data, %†,§	17.9	38.9
Influence of other experts in making tx decisions, %†,§	60.3	38.9
Tx philosophy and practices; the guidelines/pathways of my institution/practice impact my tx decisions in 1L therapy, %†		
Agree‖	75.6	51.4
Disagree¶	24.4	48.6

1L, first-line; **2L**, second-line; **3L**, third-line; **IO**, immunotherapy; **la/mUC**, locally advanced or metastatic urothelial carcinoma; **tx**, treatment.

* Estimated by physicians from the survey questionnaire.

† p value < 0.05.

‡ Based on physician recall of patients/caregivers and not direct physician reporting.

§ Percentage of oncologists who agree completely/somewhat.

‖ Either agree completely or agree somewhat.

¶ Either disagree completely, disagree somewhat, or neither agree nor disagree.

Table 3. Physician-reported tx/practice patterns for 1LM prescribers (n=146)*

	Less frequent (≤71.4%) (n=75)	*More frequent* (>71.4%) (n=71)
Systemic drug regimens prescribed to patients with la/mUC in the past 6 months, %†		
1L‡	43.4	48.1
2L‡	32.7	30.4
3L or later	23.5	21.0
Tx philosophy and practices; the guidelines/pathways of my institution/practice impact my tx decisions in 1L therapy, %‡		
Agree§	77.3	52.1
Disagree¶	22.7	47.9
Use of RECIST 1.1 criteria to assess response to tx, %‡		
Yes, I always use RECIST criteria	37.3	62.0
Yes, I sometimes use RECIST criteria	41.3	31.0
No, I do not use RECIST criteria	21.3	7.0

1L, first-line; **2L**, second-line; **3L**, third-line; **1LM**, first-line maintenance; **la/mUC**, locally advanced or metastatic urothelial carcinoma; **tx**, treatment.

* Sample excludes (1) physicians who have not treated any patients with la/mUC with a platinum-based chemotherapy in the 1L in the past 6 months or (2) physicians with no patients with la/mUC eligible for 1LM therapy.

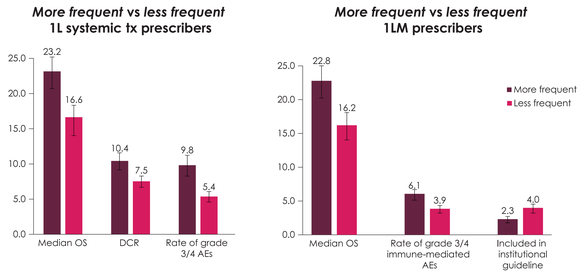
† Based on physician recall of patients/caregivers and not direct physician reporting.

‡ p value < 0.05.

§ Either agree completely or agree somewhat.

¶ Either disagree completely, disagree somewhat, or neither agree nor disagree.

Figure 1. Three key attributes (mean score out of 100 points) in 1L tx and 1LM use



Key attributes (scored out of 100 points distributed across a total of 16 attributes). All comparisons between *more frequent* vs *less frequent* prescribers: all p value <0.05.

1L, first-line; **1LM**, first-line maintenance; **AE**, adverse event; **DCR**, disease control rate; **OS**, overall survival; **tx**, treatment.

Table 4. Factors associated with *more*/*less frequent* 1L tx and 1LM use

***More* vs *less frequent* 1L tx prescribers**	**Interpretation**	**Odds ratio* (95% CI)**
Median OS†	*More frequent* 1L tx prescribers: more likely to have indicated OS as important in tx decisions	1.021 (1.003-1.040)
DCR†	*More frequent* 1L tx prescribers: more likely to have indicated DCR as important in tx decisions	1.055 (1.012-1.101)
Rate of grade 3/4 AEs†	*More frequent* 1L tx prescribers: more likely to have indicated grade 3/4 AEs as important in tx decisions	1.061 (1.013-1.111)
Patients/caregivers role in tx decisions (agree vs not)	*Less frequent* 1L tx prescribers: more likely to agree that patients/caregivers play a role in tx decisions	0.431 (0.206-0.904)
***More* vs *less frequent* 1LM prescribers**	**Interpretation**	**Odds ratio* (95% CI)**
Practice setting (academic vs community)	*More frequent* 1LM prescribers: more likely to be in an academic practice setting	4.675 (1.999-10.932)
RECIST 1.1 criteria (0=never to 2=always)	*More frequent* 1LM prescribers: more likely to report using RECIST 1.1 criteria to assess tx response	1.823 (1.005-3.308)
1LM is important to prolong patient survival (agree vs not)	*More frequent* 1LM prescribers: more likely to agree that 1LM is important to prolong patient survival	4.635 (1.057-20.331)
Guidelines/pathways of their institution (agreement level)‡	*Less frequent* 1LM prescribers: more likely to agree that guidelines/pathways of their institution/ practice impact their tx decisions	0.607 (0.431-0.854)
Prior IO (selected vs not)§	*Less frequent* 1LM prescribers: more likely to select prior IO as a reason for a patient not to receive maintenance tx	0.216 (0.075-0.627)

1L, first-line; **1LM**, first-line maintenance; **AE**, adverse event; **DCR**, disease control rate; **IO**, immunotherapy; **OS**, overall survival; **tx**, treatment.

* p value < 0.05.

† Importance score: scale of 0-100. Odds ratio close to 1 may not be reflective of a weak association but rather could be a function of using a continuous independent variable rather than categorical variable.

‡ Agreement level ranges from 1=Disagree completely to 5=Agree completely.

§ Selected indicates the respondent chose this option as a reason for a patient not to receive 1L maintenance tx.

Limitations

- This cross-sectional survey relied on convenience sampling methods and the results are not generalizable to all physicians
- The survey did not ask about patient demographics/clinical characteristics which could influence tx decisions
- There is a risk of bias due to unmeasured cofounders
- Our results are limited in that they analyze data at a single point in time
- Finally, recall bias could be present since physicians estimated tx decisions in the past 6 months and data were not abstracted directly from patient electronic health records

REFERENCES **1.** Golsky MD, et al. Bladder Cancer. 2018;4(2):227-38. **2.** Flannery K, et al. Future Oncol. 2019;15(12):1323-34. **3.** Aly A, et al. J Med Econ. 2019;22(7):662-70. **4.** Swami U, et al. Cancer Treat Res Commun. 2021;27:100325. **5.** Dinan MA, et al. J Geriatr Oncol. 2021;12(2):298-304. **6.** Hepp Z, et al. J Manag Care Spec Pharm. 2021;27(2):240-55. **7.** Barnias A, et al. Ann Oncol. 2018;29(2):361-69. **8.** Bladder Cancer, Version 3.2020, NCCN Clinical Practice Guidelines in Oncology. **9.** EMD Serono, Pfizer. BAVENCIO® [prescribing information]. Rockland, MA; EMD Serono, Inc; New York, NY; Pfizer Inc.

DISCLOSURES **F. X. Liu** reports employment by and stock and other ownership interests in EMD Serono. **H. Costantino** reports employment by Cerner Enviza and has served in consulting or advisory roles for and received research funding from EMD Serono. **C. Ike** reports employment by EMD Serono. **S. Gupta** reports employment by Cerner Enviza and has served in consulting or advisory roles for and received research funding from EMD Serono. **A. Bhanegaonkar** reports employment by, stock and other ownership interests in, research funding from, and travel, accommodations, and expenses from EMD Serono. **S. Thakkar** reports employment by, stock and other ownership interests in, research funding from, and travel, accommodations, and expenses from Pfizer. **G. Devgan** reports employment by and stock and other ownership interests in Pfizer. **H. Katzenstein** reports employment by EMD Serono. **S. Gupta** has served in consulting or advisory roles for Gilead Sciences, Guardant Health, AVEO, EMD Serono, Pfizer, Merck & Co, and Loxo/Lilly; reports speakers bureau services for Bristol Myers Squibb and Janssen Oncology; reports stock and other ownership interests in Nektar and Moderna Therapeutics; and reports honoraria from Bristol Myers Squibb. **ACKNOWLEDGMENTS** This study was sponsored by EMD Serono (CrossRef Funder ID: 10.13039/100004755), as part of an alliance between the healthcare business of Merck KGaA, Darmstadt, Germany and Pfizer. Editorial support was provided by ClinicalThinking and was funded by the healthcare business of Merck KGaA, Darmstadt, Germany and Pfizer.

Abstract No. 4595. Presented at the 2022 ASCO Annual Meeting, June 3-7, 2022; Chicago, IL; Hybrid.