# Avelumab first-line maintenance for advanced urothelial carcinoma: long-term outcomes from JAVELIN Bladder 100 in patients with low tumor burden

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# CONCLUSIONS

- We report long-term efficacy and safety outcomes from a post hoc analysis of subsets of patients with low tumor burden (ie, nonvisceral metastases or lymph node–only disease) from the JAVELIN Bladder 100 trial, which compared avelumab first-line (1L) maintenance + best supportive care (BSC) vs BSC alone in patients with advanced urothelial carcinoma (UC) that had not progressed with 1L platinum-based chemotherapy
- Overall survival (OS) and investigator-assessed progression-free survival (PFS) were prolonged with avelumab + BSC vs BSC alone in subsets of patients with low tumor burden
- The long-term safety of avelumab 1L maintenance in patients with low tumor burden was demonstrated and was generally consistent with results from the overall population<sup>1,2</sup>
- The findings indicate that avelumab 1L maintenance has pronounced efficacy and manageable toxicity in patients with advanced UC with low tumor burden, supporting the use of platinum-based chemotherapy followed by avelumab maintenance as an important 1L treatment option in these patients

# PLAIN LANGUAGE SUMMARY

- In the JAVELIN Bladder 100 study, avelumab maintenance treatment helped people with advanced urothelial cancer live longer
- Maintenance treatment means treating people whose cancer disappeared, shrank, or stopped growing with chemotherapy with the aim of maintaining the benefit
- This new analysis from the JAVELIN Bladder 100 study looked at results with avelumab maintenance treatment in people who had low tumor burden
- The people with low tumor burden had cancer that had spread to nearby tissues, bones, or lymph nodes but not other places, like the lung or liver
- In this analysis, people who were treated with avelumab had a 40% lower risk of dying than those not treated with avelumab
- No new safety concerns were found in this subgroup compared with all people in the study
- Overall, these results provide more support for using avelumab maintenance as a standard treatment option for people with advanced urothelial cancer, including those with low tumor burden

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# BACKGROUND

- In the JAVELIN Bladder 100 trial, avelumab 1L maintenance + BSC significantly prolonged OS and PFS vs BSC alone in patients with advanced UC that had not progressed with 1L platinum-based chemotherapy<sup>1,2</sup>
- After  $\geq 2$  years of follow-up (data cutoff: June 4, 2021), median OS (from randomization) was 23.8 vs 15.0 months, respectively (hazard ratio [HR], 0.76 [95% CI, 0.63-0.91]; 2-sided p=0.0036)
- The long-term safety of avelumab 1L maintenance was demonstrated, with no new safety concerns identified,<sup>1</sup> and no detrimental impact on quality of life was observed<sup>3</sup>
- Results from the trial led to avelumab 1L switch maintenance being recommended as a standard of care in international treatment guidelines for patients with advanced UC that has not progressed with 1L platinum-based chemotherapy<sup>4-7</sup>
- Prior analyses have shown that low tumor burden (ie, nonvisceral metastases or lymph node-only disease) is associated with better outcomes in patients with advanced UC receiving immune checkpoint inhibitors<sup>8-10</sup>
- Here, we report post hoc analyses of efficacy and safety in subsets of patients with low tumor burden from the JAVELIN Bladder 100 trial

## RESULTS

- At the efficacy data cutoff (June 4, 2021), median follow-up was ≥38 months in both arms • In the avelumab + BSC and BSC alone arms, respectively, 159 and 159 patients had nonvisceral metastases at start of 1L chemotherapy and 51 and 51 patients had lymph node-only disease at randomization, of whom 42 and 35 patients had lymph node–only disease in the
- pelvic/retroperitoneal area only (**Table 1**)
- In all subgroups of patients with low tumor burden, OS was prolonged in the avelumab + BSC arm vs the BSC alone arm (Figure 2)
- Median OS in the avelumab + BSC vs BSC alone arms was 31.4 vs 17.1 months in patients with nonvisceral metastases, 31.9 vs 22.7 months in patients with lymph node-only disease, and 31.2 vs 20.2 months in patients with pelvic/retroperitoneal lymph node-only disease
- Investigator-assessed PFS was also prolonged with avelumab + BSC vs BSC alone in patients with low tumor burden (Figure 3)
- Median PFS in the avelumab + BSC vs BSC alone arms was 9.0 vs 3.3 months in patients with nonvisceral metastases, 8.7 vs 3.7 months in patients with lymph node-only disease, and 7.5 vs 3.7 months in patients with pelvic/retroperitoneal lymph node–only disease
- At the data cutoff of April 6, 2023, in the avelumab + BSC and BSC alone arms, respectively, subsequent anticancer drug treatment was received by 90 (56.6%) and 119 patients (74.8%) with nonvisceral metastases, 27 (52.9%) and 39 patients (76.5%) with lymph node-only disease, and 22 (52.4%) and 27 patients (77.1%) with lymph node–only disease in the pelvic/ retroperitoneal area only
- The long-term safety of avelumab 1L maintenance (data cutoff: April 6, 2023) was acceptable in all subsets of patients with low tumor burden (Table 2) - Two patients (1.3%) in the nonvisceral metastases subgroup, of whom 1 had lymph node-only disease, had a treatment-related adverse event that led to death as assessed by the treating investigator (sepsis [n=1], and immune-related nephritis [n=1; patient with lymph node-only disease])

### Table 1. Patient characteristics at baseline

	Nonvisceral metastases		Lymph node-only disease		Pelvic/retroperitoneal lymph node-only disease	
	Avelumab + BSC (n=159)	BSC alone (n=159)	Avelumab + BSC (n=51)	BSC alone (n=51)	Avelumab + BSC (n=42)	BSC alone (n=35)
Age, median (range), years	68 (39-90)	69 (32-85)	69 (39-85)	68 (53-81)	69 (39-85)	67 (54-81)
<b>Sex, n (%)</b> Male Female	125 (78.6) 34 (21.4)	125 (78.6) 34 (21.4)	43 (84.3) 8 (15.7)	39 (76.5) 12 (23.5)	35 (83.3) 7 (16.7)	28 (80.0) 7 (20.0)
Pooled geographic region, n (%) Europe North America Asia Australasia Rest of the world	91 (57.2) 7 (4.4) 39 (24.5) 16 (10.1) 6 (3.8)	89 (56.0) 9 (5.7) 37 (23.3) 19 (11.9) 5 (3.1)	32 (62.7) 2 (3.9) 7 (13.7) 8 (15.7) 2 (3.9)	34 (66.7) 0 13 (25.5) 3 (5.9) 1 (2.0)	27 (64.3) 1 (2.4) 5 (11.9) 7 (16.7) 2 (4.8)	28 (80.0) 0 5 (14.3) 1 (2.9) 1 (2.9)
<b>ECOG PS, n (%)</b> 0 ≥1	93 (58.5) 66 (41.5)	101 (63.5) 58 (36.5)	28 (54.9) 23 (45.1)	33 (64.7) 18 (35.3)	25 (59.5) 17 (40.5)	21 (60.0) 14 (40.0)
<b>PD-L1 status, n (%)</b> Positive Negative Unknown	101 (63.5) 49 (30.8) 9 (5.7)	90 (56.6) 49 (30.8) 20 (12.6)	35 (68.6) 13 (25.5) 3 (5.9)	31 (60.8) 12 (23.5) 8 (15.7)	30 (71.4) 10 (23.8) 2 (4.8)	23 (65.7) 8 (22.9) 4 (11.4)
<b>Site of metastasis</b> <b>at start of 1L</b> <b>chemotherapy, n (%)</b> Visceral Nonvisceral	0 159 (100)	0 159 (100)	11 (21.6) 40 (78.4)	8 (15.7) 43 (84.3)	10 (23.8) 32 (76.2)	7 (20.0) 28 (80.0)
Best response to 1L chemotherapy, n (%) CR or PR SD	113 (71.1) 46 (28.9)	112 (70.4) 47 (29.6)	32 (62.7) 19 (37.3)	37 (72.5) 14 (27.5)	27 (64.3) 15 (35.7)	27 (77.1) 8 (22.9)

Data cutoff: April 6, 2023. 1L, first line; BSC, best supportive care; CR, complete response; ECOG PS, Eastern Cooperative Oncology Group performance status; PR, partial response

**SD**, stable disease.

METHODS

- In the phase 3 JAVELIN Bladder 100 trial (NCT02603432), 700 patients with unresectable locally advanced or metastatic UC without progression after 4-6 cycles of 1L platinum-based chemotherapy were randomized 1:1 to receive avelumab + BSC or BSC alone (**Figure 1**)
- The primary endpoint was OS; secondary endpoints included investigator-assessed PFS and safety
- This post hoc analysis was performed in patients with low tumor burden, ie, those with nonvisceral metastases at start of 1L chemotherapy or the subset with lymph node–only disease at randomization
- Patients with nonvisceral metastases included those with locally advanced disease in addition to those with only nonvisceral disease at randomization
- In this trial, bone metastases were considered nonvisceral disease Adverse events were graded according to the National Cancer Institute Common Terminology Criteria for Adverse Events version 4.03

Figure 2. OS in subgroups with low tumor burden

Nonvisceral metastase Avelumab + BSC (n=159) BSC alone (n=159)Events, n (%)85 (53.5)107 (67.3)Median OS, months31.417.1(95% CI)(26.1-36.8)(13.7-21.3)Stratified HR (95% CI)0.60 (0.45-0.79)

Data cutoff: June 4, 202 BSC, best supportive care; HR, hazard ratio; NE, not evaluable; OS, overall survival

#### Figure 3. Investigator-assessed PFS in subgroups with low tumor burden



BSC, best supportive care; HR, hazard ratio; PFS, progression-free survival.

#### Table 2. Summary of long-term safety in subgroups with low tumor burden

	Nonvisceral metastases		Lymph node–only disease		Pelvic/retroperitoneal lymph node–only disease	
Patients, n (%)	Avelumab + BSC	BSC alone	Avelumab + BSC	BSC alone	Avelumab + BSC	BSC alone
	(n=158)	(n=157)	(n=50)	(n=50)	(n=41)	(n=34)
AE of any grade	156 (98.7)	133 (84.7)	50 (100)	37 (74.0)	41 (100)	24 (70.6)
Grade ≥3 AE	93 (58.9)	43 (27.4)	33 (66.0)	11 (22.0)	29 (70.7)	7 (20.6)
<b>TRAE of any grade</b>	122 (77.2)	2 (1.3)	44 (88.0)	0	36 (87.8)	0
Grade ≥3 TRAE	30 (19.0)	0	8 (16.0)	0	6 (14.6)	0
Serious AE	55 (34.8)	40 (25.5)	20 (40.0)	12 (24.0)	18 (43.9)	9 (26.5)
Serious TRAE	18 (11.4)	0	7 (14.0)	0	5 (12.2)	0
AE leading to discontinuation of study drug	24 (15.2)	0	5 (10.0)	0	4 (9.8)	0
TRAE leading to discontinuation of study drug	21 (13.3)	0	3 (6.0)	0	2 (4.9)	0
<b>AE leading to death</b>	2 (1.3)	11 (7.0)	3 (6.0)	4 (8.0)	2 (4.9)	2 (5.9)
TRAE leading to death	2 (1.3)	O	1 (2.0)	0	0	O
irAE of any grade	52 (32.9)	5 (3.2)	17 (34.0)	3 (6.0)	15 (36.6)	3 (8.8)
IRR of any grade	33 (20.9)	0	12 (24.0)	0	9 (22.0)	0
Data cutoff: April 6, 2023. <b>AE,</b> adverse event; <b>BSC,</b> best supportive care; <b>irAE,</b> immune-related AE; <b>IRR,</b> i	nfusion-related reaction; <b>TRAE,</b> treatment-r	elated AE.				

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• Metastatic site when initiating 1L chemotherapy (visceral vs nonvisceral)

1L, first line; BSC, best supportive care; CR, complete response; OS, overall survival; PD, progressive disease; PFS, progression-free survival; PR, partial response; R, randomization; SD, stable disease; UC, urothelial carcinoma \*BSC (eg, antibiotics, nutritional support, hydration, and pain management) was administered per local practice based on patient needs and clinical judgment other antitumor therapy was not permitted, but palliative local radiotherapy for isolated lesions was acceptable. \* Assessed using the Ventana SP263 assay



