### Supplementary Table 1. Clinical characteristics of patients (n = 14) in the GESICA study, Copenhagen, 2018–2021.

|                                | All (n = 14) | Men (n = 8) | Women (n = 6) |
|--------------------------------|-------------|-------------|---------------|
| **Age, years (range)**         | 74 (56–84)  | 75 (56–84)  | 72 (62–81)    |
| **Primary tumor location**     |             |             |               |
| Renal pelvis/ureter            | 4 (29)      | 1           | 3             |
| Bladder                        | 10 (71)     | 7           | 3             |
| Urethra                        | 0 (0)       | 0           | 0             |
| **Histology**                  |             |             |               |
| Urothelial carcinoma           | 14 (100)    | 8           | 6             |
| **Disseminated disease at diagnosis** |         |             |               |
| Yes                            | 4 (29)      | 3           | 1             |
| No                             | 10 (71)     | 5           | 5             |
| **Prior treatments**           |             |             |               |
| NAC                            | 0 (0)       | 0           | 0             |
| Radical cystectomy             | 3 (21)      | 2           | 1             |
| Nephroureterectomy             | 4 (29)      | 1           | 3             |
| 1L chemotherapy                | 1 (7)       | 1           | 0             |
| **Location of metastases**     |             |             |               |
| Lymph nodes                    | 8 (57)      | 6           | 2             |
| Liver                          | 1 (7)       | 0           | 1             |
| Lungs                          | 3 (21)      | 1           | 2             |
| Bone                           | 1 (7)       | 1           | 0             |
| Pelvis soft tissue             | 3 (21)      | 0           | 3             |
| Carcinosis                     | 1 (7)       | 1           | 0             |
| **ECOG PS**                    |             |             |               |
| 0                              | 6 (43)      | 3           | 3             |
| 1                              | 8 (57)      | 5           | 3             |
| **Treatment initiated**        |             |             |               |
| NAC                            | 4 (29)      | 2           | 2             |
| 1L cis/gem                     | 2 (14)      | 2           | 0             |
| 1L carbo/gem                   | 6 (43)      | 3           | 3             |
| 1L pembrolizumab               | 1 (7)       | 0           | 1             |
| 2L vinflunine                  | 1 (7)       | 1           | 0             |

Abbreviations: ECOG PS = eastern cooperative oncology group performance status; NAC = neoadjuvant chemotherapy; 1L = first-line treatment; cis/gem = cisplatin/gemcitabine; carbo/gem = carboplatin/gemcitabine; 2L = second-line treatment.
Supplementary Table S2. Treatment details of patients (n = 14) in the GESICA study, Copenhagen, 2018-2021.

| ID | Sex | Age   | ECOG PS | Treatment completion* (%) | Reason for treatment termination | Dose reduction | Treatment delay |
|----|-----|-------|---------|---------------------------|---------------------------------|----------------|----------------|
| 1  | M   | ≥80   | 1       | 100                       | Treatment completed             | Yes            | No             |
| 2  | F   | 70-79 | 1       | 100                       | Treatment completed             | Yes            | Yes            |
| 3  | M   | ≥80   | 1       | 100                       | Treatment completed             | Yes            | Yes            |
| 4  | F   | 60-69 | 1       | 50                        | Disease progression             | Yes            | No             |
| 5  | M   | 70-79 | 0       | 100                       | Treatment completed             | Yes            | Yes            |
| 6  | M   | 70-79 | 1       | 100                       | Treatment completed             | Yes            | Yes            |
| 7  | F   | 60-69 | 0       | 100                       | Treatment completed             | Yes            | No             |
| 8  | M   | 70-79 | 1       | -*                       | Disease progression             | Yes            | Yes            |
| 9  | M   | 60-69 | 0       | 100                       | Treatment completed             | No             | Yes            |
| 10 | M   | 60-69 | 1       | 100                       | Treatment completed             | Yes            | Yes            |
| 11 | F   | 60-69 | 0       | 25                        | Mental issues                   | No             | No             |
| 12 | M   | 50-59 | 0       | 75                        | Side effects                    | No             | No             |
| 13 | F   | ≥80   | 1       | -∞                       | Disease progression             | No             | No             |
| 14 | F   | 70-79 | 0       | 100                       | Treatment completed             | Yes            | Yes            |

Abbreviations: ECOG PS = eastern cooperative oncology group performance status; M = male; F = female.

* Regarded as completion of planned number of treatment cycles regardless of dose reductions and treatment delays.

**Patient received vinflunine with no defined maximum of treatment cycles (a total of six cycles received)

∞ Patient received pembrolizumab with no clear maximum of treatment cycles (a total of two cycles received)