Current treatment patterns in muscle-invasive urothelial carcinoma (MIUC) across North America, Europe, and East Asia

Milloy N,[1] Teitsson S,[2] Huo S,[3] Kurt M,[3] Kostikas M,[1] Lambert A,[1] Berry M,[1] Broughton E[3]

[1]Adelphi Real World, Bollington, UK; [2]Bristol Myers Squibb, Uxbridge, UK; [3]Bristol Myers Squibb, Princeton, NJ, USA

Background

- Radical resection (RR) is the current standard of care (SOC) for MIUC.[1]
- Neoadjuvant cisplatin-based chemotherapy (NAC) is also SOC among cisplatin-eligible patients.[2]
- Despite RR being performed with curative intent, up to 50% of MIUC patients are likely to experience metastatic recurrence.[3]
- Current guidelines suggest adjuvant chemotherapy (AC) to be offered to patients with high-risk of recurrence who did not receive neoadjuvant chemotherapy.[4]
- Trials for adjuvant PD-1 checkpoint inhibitors are currently underway and improved disease-free survival compared to placebo has been shown so far.[5]

Objective

- This study assessed treatment patterns in MIUC in clinical practice in EU5 countries (France, Germany, Italy, Spain, UK), US, Canada, China, and Japan.

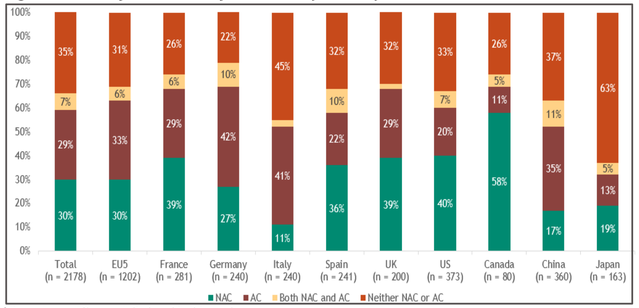
Methods

- Clinical/medical oncologists/urologists were recruited to abstract data from medical records for their next 8 consulting patients who had undergone RR for confirmed MIUC within 180 days of the consultation of record. The point-in-time study was conducted between January-June 2021 using Disease Specific Programme (DSP™) methodology.[6]
- A geographically representative sample was sought when recruiting physicians into the programme.
- Patients included in this study were ≥18 years old, not taking part in a clinical trial and not diagnosed with carcinoma in situ (CIS) only.
- Oncologists and urologists participating in this study were required to consult with a minimum of 4 MIUC patients per month on average at the time of data collection and be actively involved in their prescription decisions.
- Demographics, clinical characteristics, and treatment patterns were described.

Results

- A total of 320 physicians provided data on 2,178 MIUC patients. At MIUC diagnosis, mean age was 66.7 years. Seventy-three percent of patients were male and 80% had primary tumour in bladder **(Table 1).**
- Thirty-five percent of patients overall did not receive NAC or AC.
  - The rate was lower in Germany, and higher in Japan and Italy **(Figure 1).**
- Overall, average proportion of patients who received NAC only was 30%.
  - This rate was lower in Italy, and higher in Canada, US and the UK **(Figure 1).**
  - The percentage of patients who received both NAC and AC ranged from 2% in the UK and 3% in Italy to 10% in Germany and 11% in China **(Figure 1).**
- Overall, 30% of patients received neither NAC nor AC. This rate was highest in Japan and lowest in Germany **(Figure 1).**

Figure 1. Neoadjuvant and Adjuvant Use by Country



[a] Percentages <5% are not displayed in this graph

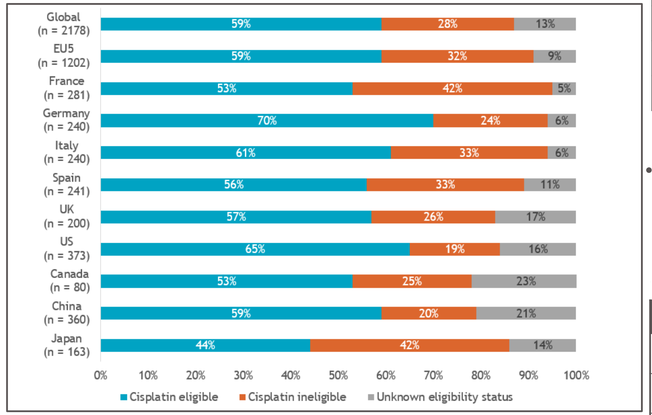
Table 1. Demographics and Clinical Characteristics by Country

Mean age at MIUC diagnosis, years	66.7	66.8	67.2	68.1	65.9	66.4	65.7	66.7	68.2	63.9	71.0
Male, n (%)	1592 (73)	874 (73)	204 (73)	175 (73)	171 (71)	190 (79)	134 (67)	264 (71)	65 (81)	263 (73)	126 (77)
Currently known to be working full/part time, n (%)	399 (18)	180 (15)	29 (10)	19 (8)	68 (28)	28 (12)	36 (18)	134 (36)	17 (21)	37 (10)	31 (19)
Current smoker, n (%)	391 (18)	276 (23)	70 (25)	43 (18)	74 (31)	65 (27)	24 (12)	41 (11)	12 (15)	49 (14)	13 (8)
Primary tumour site at initial diagnosis, n (%)											
Bladder	1744 (80)	955 (79)	237 (84)	208 (87)	158 (66)	201 (83)	151 (76)	327 (88)	71 (89)	288 (80)	103 (63)
Renal pelvis	219 (10)	129 (11)	21 (7)	14 (6)	48 (20)	17 (7)	29 (15)	22 (6)	7 (9)	33 (9)	28 (17)
Ureter	168 (8)	97 (8)	19 (7)	11 (5)	30 (13)	21 (9)	16 (8)	13 (3)	2 (3)	26 (7)	30 (18)
Urethra	46 (2)	20 (2)	4 (1)	7 (3)	4 (2)	2 (1)	3 (2)	11 (3)	0 (0)	13 (4)	2 (1)
Other	1 (1)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)
Surgery received, n (%)											
Radical cystectomy	1497 (69)	795 (66)	169 (60)	209 (87)	149 (62)	146 (61)	122 (61)	302 (81)	52 (65)	261 (73)	87 (53)
Nephroureterectomy	323 (15)	193 (16)	38 (14)	13 (5)	59 (25)	39 (16)	44 (22)	26 (7)	9 (11)	38 (11)	57 (35)
Cystoprostatectomy	112 (5)	44 (4)	7 (2)	5 (2)	17 (7)	8 (3)	7 (4)	15 (4)	1 (1)	38 (11)	14 (9)
Radical ureterectomy	289 (13)	195 (16)	69 (25)	13 (5)	16 (7)	66 (27)	31 (16)	35 (9)	23 (29)	25 (7)	11 (7)
Eligibility for platinum-based treatments following surgery, n (%)											
Cisplatin eligible	1278 (59)	712 (59)	150 (53)	167 (70)	147 (61)	135 (56)	113 (57)	241 (65)	42 (53)	211 (59)	72 (44)
Cisplatin ineligible, carboplatin eligible	302 (14)	183 (15)	62 (22)	26 (11)	32 (13)	30 (12)	33 (17)	24 (6)	12 (15)	36 (10)	47 (29)
Ineligible for platinum- based regimen	321 (15)	203 (17)	55 (20)	32 (13)	47 (20)	49 (20)	20 (10)	50 (13)	8 (10)	39 (11)	21 (13)
Unknown	277 (13)	104 (9)	14 (5)	15 (6)	14 (6)	27 (11)	34 (17)	58 (16)	18 (23)	74 (21)	23 (14)
ECOG score following radical resection, n (%)											
0/1	1729 (79)	958 (80)	224 (80)	169 (70)	191 (80)	192 (80)	182 (91)	312 (84)	66 (83)	240 (67)	153 (94)
2/3/4	428 (20)	241 (20)	56 (20)	71 (30)	47 (20)	49 (20)	18 (9)	56 (15)	13 (16)	108 (30)	10 (6)
Unknown/not assessed	21 (1)	3 (<1)	1 (<1)	0 (0)	2 (1)	0 (0)	0 (0)	5 (1)	1 (1)	12 (3)	0 (0)

[a] ECOG=Eastern Cooperative Oncology Group

- Overall, 59% of patients were cisplatin eligible following surgery (range: 44% in Japan – 70% in Germany) **(Figure 2).**

Figure 2: Cisplatin Eligibility Status Following Radical Resection



- The most common reasons for stopping NAC were unacceptable tolerability (30%) and patients' own requests to stop treatment (24%).
- Across all countries, at 1st line NAC, 29% of patients reached complete response (CR), 66% reached partial response (PR) and 5% did not respond to treatment (NR).
  - The corresponding figures for 1st line AC were 50% for CR, 42% for PR and 8% for NR.

Table 2. Treatments Received at 1L Neoadjuvant Setting by Country*

	Global n = 797	EU5 n = 434	FR n = 125	DE n = 88	IT n = 32	ES n = 109	UK n = 80	US n = 175	CA n = 50	CN n = 99	JP n = 39
Platinum-based CT	766 (96)	422 (97)	118 (94)	83 (94)	32 (100)	109 (100)	80 (100)	170 (97)	48 (96)	89 (90)	37 (95)
Other CT	22 (3)	5 (1)	3 (2)	2 (2)	0 (0)	0 (0)	0 (0)	3 (2)	2 (4)	10 (10)	2 (5)
IO	18 (2)	6 (1)	3 (2)	3 (3)	0 (0)	0 (0)	0 (0)	4 (2)	0 (0)	5 (5)	3 (8)
Other	15 (2)	9 (2)	5 (4)	1 (1)	0 (0)	3 (3)	0 (0)	3 (2)	0 (0)	0 (0)	3 (8)

[a] These are treatments received at 1st line neoadjuvant setting. Physicians reported that 94% of patients received one line of neoadjuvant treatment. The sum of reported percentages in each column can exceed 100% as the responses are not mutually exclusively. CT, Chemotherapy; IO, Immunotherapy.

- Across all countries, 36% of patients received AC overall (range: 16% in Canada - 52% in Germany), most of which was platinum-based chemotherapy (77%), with most patients having received one course (90%). A minority received immunotherapy (12%), with higher than average use in US and Germany **(Table 3).**
  - The most common reasons for stopping adjuvant therapy were disease progression or recurrence (30%) and unacceptable tolerability (22%).

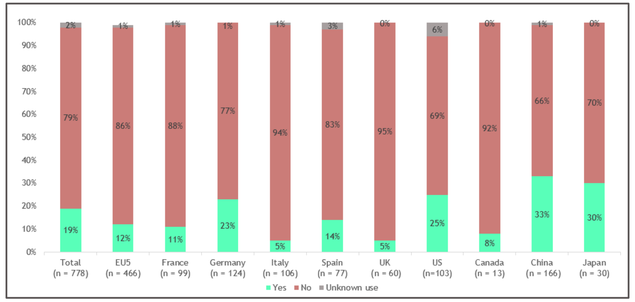
Table 3. Treatments Received at 1L Adjuvant Setting by Country*

	Global n = 778	EU5 n = 466	FR n = 99	DE n = 124	IT n = 106	ES n = 77	UK n = 60	US n = 103	CA n = 13	CN n = 166	JP n = 30
Platinum-based CT	599 (77)	367 (79)	76 (77)	92 (74)	77 (73)	64 (83)	58 (97)	66 (64)	11 (85)	131 (79)	24 (80)
Other CT	87 (11)	43 (9)	13 (13)	7 (6)	18 (17)	3 (4)	2 (3)	14 (14)	0 (0)	27 (16)	3 (10)
IO	96 (12)	47 (10)	9 (9)	22 (18)	7 (7)	8 (10)	1 (2)	22 (21)	2 (15)	21 (13)	4 (13)
Other	26 (3)	15 (3)	4 (4)	3 (2)	5 (5)	3 (4)	0 (0)	4 (4)	0 (0)	5 (3)	2 (7)

[a] These are treatments received at 1st line adjuvant setting. Physicians reported that 90% of patients received one line of adjuvant treatment. The sum of reported percentages in each column can exceed 100% as the responses are not mutually exclusively. CT, Chemotherapy; IO, Immunotherapy.

- Across all countries, rates of treatment use **(Figure 1)** were much lower than the proportions considered platinum-eligible following RR **(Figure 2).**
  - Overall, 59% of patients were cisplatin eligible but only 29% received AC.
  - This discordance was greatest in US and Canada, and lowest in Germany.

Figure 3: Use of Concurrent Radiotherapy at Adjuvant Treatment



[a] Percentages <5% are not displayed in this graph

- Overall, average use of concurrent radiotherapy was 19% (5% in UK and Italy, 8% in Canada, 33% in China, 30% in Japan) **(Figure3).**

Limitations

- Data were more likely to be collected on patients who consult their physician more frequently.
- Accuracy of all collected data relied on the reporting of both physician and patient.
- No statistical hypothesis testing or adjustment for potential confounding factors was performed.

Conclusions

- This study demonstrated that significant variation across countries in the approach to treating patients with MIUC.
- More than one third (35%) of patients with MIUC did not receive NAC or AC with RR, highlighting the significance of the unmet need in the MIUC treatment setting since many patients remain untreated.
- Of those who received treatment in NAC or AC settings, platinum-based chemotherapy was globally the preferred treatment.

References

1. Gakis G, et al. *Eur Urol*; 2013:63(1): 45-57
2. Witjes A, et al. *Eur Urol*; 2017; 71(3):462-475
3. Stein JP, et al. *J Clin Oncol*. 2001;19(3):666-75. doi: 10.1200/JCO.2001.19.3.666.
4. Flaig TW, et al. *J Natl Compr Canc Netw* 2018; 16(9):1041-1053
5. Bajorin D. et al. *N Engl J Med*; 2021;384(22):2102-2114. doi: 10.1056/NEJMoa2034442.
6. Anderson P et al. Curr Med Res Opin; 2008, doi: https://doi.org/10.1185/0300799080245704O

Acknowledgments

- This study was sponsored by Bristol Myers Squibb.
- All authors contributed to and approved the presentation.

Email: neil.milloy@adelphigroup.com

Copies of this poster are for personal use only and may not be reproduced without written permission from the author of this poster.