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Patient Experience With Bladder-Sparing Therapy in Muscle-Invasive Bladder Cancer: A Targeted Literature Review

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Objective

- To summarize existing patient experience data (PED) and identify evidence gaps among patients with muscle-invasive bladder cancer (MIBC) who decline or are ineligible for radical cystectomy (RC) or are candidates for bladder-sparing therapy (BST), with a focus on symptoms, treatment impacts on health-related quality of life (HRQOL), treatment experiences and preferences, and patient-valued outcomes.

Conclusions

- BST (concurrent chemoradiotherapy [cCRT]/trimodal therapy [TMT]) in MIBC imposes meaningful and persistent impacts and burden extending beyond symptoms alone.
- When weighing treatment decisions, patients prioritized bladder preservation, sexual function, body image, and treatment convenience alongside survival.
- Despite increasing use of BST approaches in MIBC, PED that directly captures the lived cCRT/TMT experience, particularly qualitative evidence and longitudinal data beyond 2 years, remains limited.

Background

- MIBC, most commonly of urothelial histology, accounts for ~25% of all bladder cancer diagnoses.[1]
- RC with perioperative therapy is the standard of care for MIBC. Patients who are ineligible for or decline surgery may instead receive BST, typically consisting of cCRT using maximal transurethral resection of bladder tumor (TURBT) or TMT, which carries substantial treatment and disease burden.[2,3]
- Although bladder cancer symptoms are well described, PED on the broader experience of MIBC and its treatment have not been comprehensively characterized, limiting evidence for treatment decisions.[2,4]

Methods

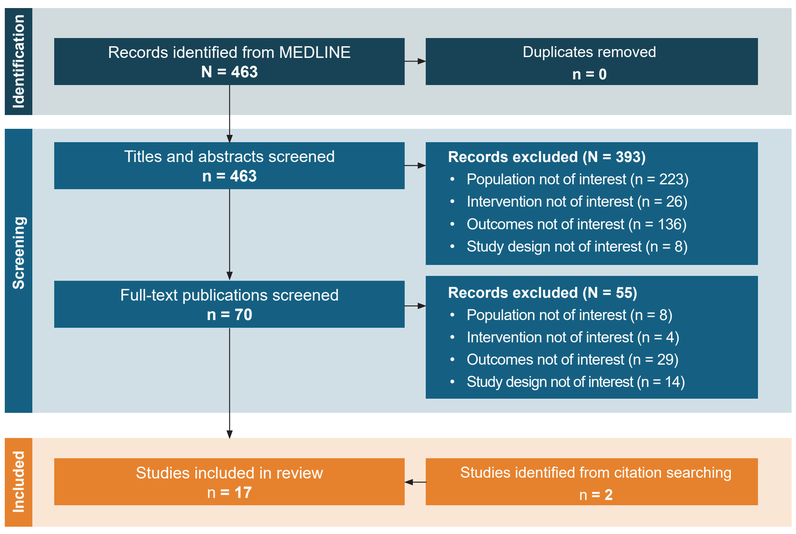
- A targeted MEDLINE review was conducted using a predefined search protocol, covering studies published from 1 January 2015 to 9 January 2026 on the experiences of patients who are RC-ineligible or declined RC and receiving cCRT/TMT or related BST for MIBC.
- Search terms combined controlled vocabulary and title/abstract keywords across 4 concepts: (1) MIBC, (2) bladder-preserving interventions, (3) patient-relevant outcomes, and (4) study designs. Citation searching captured seminal research not retrieved by the database search.
- Publications were stratified by treatment stage and outcomes were summarized by PED type.

Results

Evidence Summary

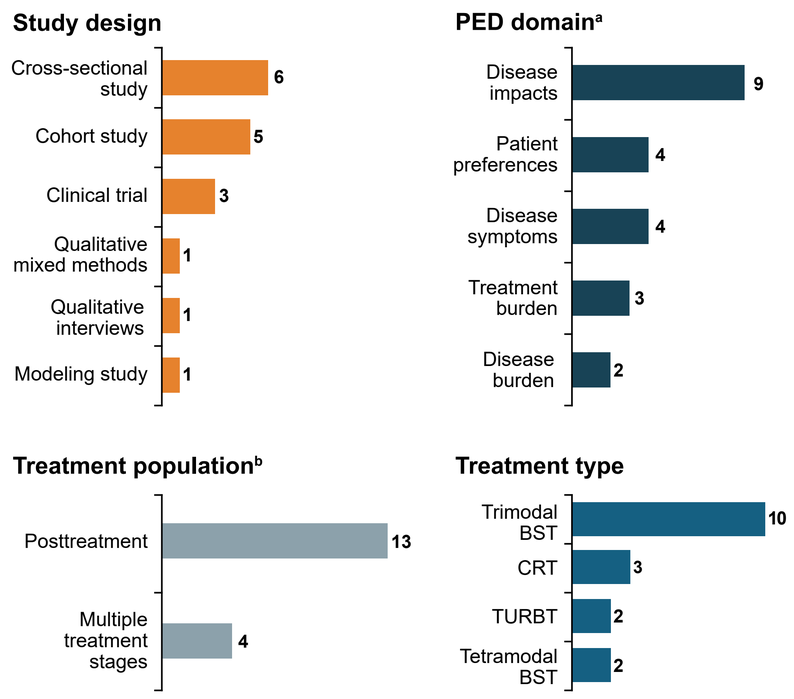
- 17 publications met eligibility criteria and were included (Figure 1).[5-21]
- Included studies were predominantly quantitative (n = 15); disease impacts (n = 9) was the most reported PED domain (Figure 2).
- Study populations were predominantly after treatment (n = 13) and focused on trimodal BST (n = 10) approaches (Figure 2).

Figure 1. Flow Diagram of Study Selection Process



Note: Searches were limited to English-language articles, excluding animal-only studies, comments, letters, editorials, case reports, case studies, and case series. Titles and abstracts were screened by a single reviewer, and eligible publications advanced to full-text review.

Figure 2. Characteristics of Included Articles (N = 17)



CRT, chemoradiotherapy.

[a] Studies could report across multiple PED domains.

[b] "Posttreatment" study populations were assessed exclusively after treatment completion; "multiple treatment stages" studies included population spanning ≥ 2 treatment stages (eligible but pretreatment, currently receiving treatment, or posttreatment).

Disease Symptoms

- Across 4 studies spanning different treatment stages, common symptoms included hematuria, urinary frequency, incontinence, bowel-control problems, pain, and impaired erectile function.[6,9,11,14]
- In a cross-sectional survey of symptoms leading to MIBC diagnosis across 2 time periods, hematuria (78%-86%) was the most reported presenting symptom, followed by frequent urination (40%-44%), urinary urgency (24%-28%), and pain with urination (17%-23%).[6]

Disease and Treatment Burden

- Disease (n = 2)[12,17] and treatment burden (n = 3)[8,10,21] studies showed that MIBC burden extends beyond symptoms to include high healthcare utilization, repeated invasive procedures, prolonged treatment, and worsening psychological sequelae.

Disease Burden

Psychiatric morbidity

- Posttreatment psychiatric disorders developed in 50% of older adults and were associated with worse survival; risk of psychiatric illness was higher after RC than radiotherapy and/or chemotherapy.[12]

Quality-adjusted survival

- Despite similar modeled survival, TMT was associated with greater quality-adjusted survival than RC (base-case, +0.59 quality-adjusted life-years [QALYs]; favorable cohorts, +1.61 QALYs), suggesting a lower long-term disease burden.[17]

Treatment Burden

Patient burden

- Although disease-specific survival was equivalent between TMT and RC (73% survival at 3 years), TMT was associated with significantly lower treatment burden scores; posttreatment complications were common with both approaches.[8]

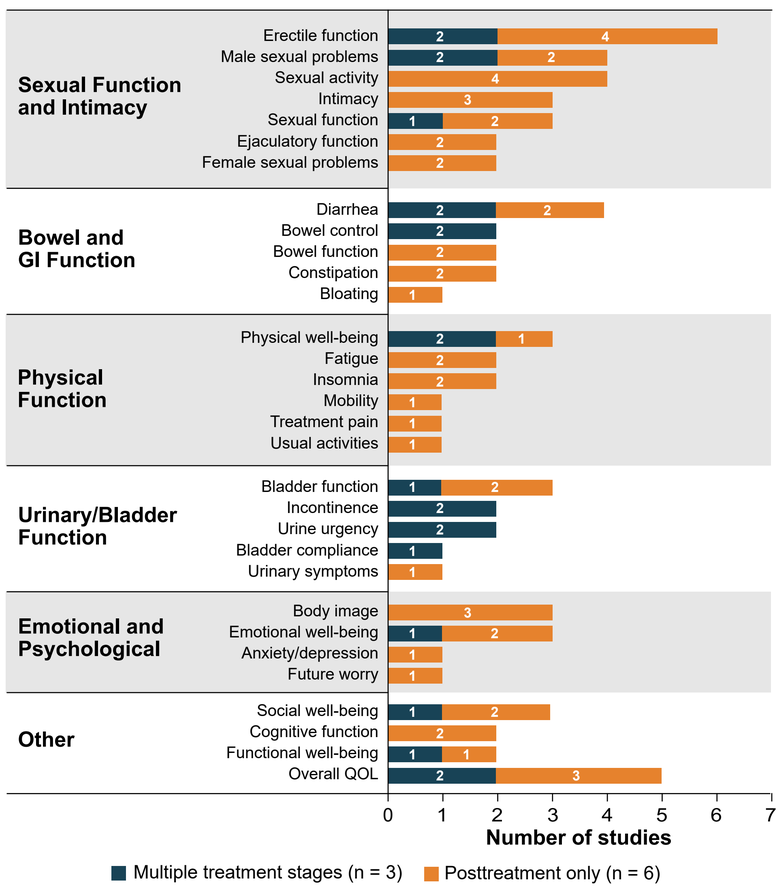
Healthcare resource and economic burden

- Among patients declining or ineligible for curative treatment, recurrent hematuria and urinary/emergent interventions were common, with a median of 4 emergency department visits and 16 hospital days annually.[10]
- In 3,200 older United States adults with MIBC, TMT incurred higher 90- and 180-day costs than RC, contributing ~$335 million in excess national spending in 2011.[21]

Disease Impacts on HRQOL

- 9 publications reported treatment impacts (6 posttreatment[5,13,15,16,18,19] and 3 across treatment stages[9,11,14]), spanning emotional/psychological, physical, sexual, urinary/bowel, social, and other domains (Figure 3).
- HRQOL declined during active cCRT/TMT, especially in Physical and Functional domains, but generally recovered to near-baseline within 6 months among relapse-free survivors.[11]
- Fatigue and urinary symptoms often persisted long term, as did meaningful sexual and other functional impairments, indicating continued burden after bladder preservation.[5,9,18,19]

Figure 3. Number of Studies With Patient-Reported Disease Impacts in MIBC by BST Treatment Stage (n = 9)



GI, gastrointestinal; QOL, quality of life.

Note: Studies could report multiple themes.

Sources: [9]Herman et al. (2004), [11]Huddart et al. (2020), [14]Lagrange et al. (2011), [5]Ballas et al. (2021), [13]Kijima et al. (2019), [15]Mak et al. (2016), [16]Rogers et al. (2024), [18]Scheltes et al. (2023), [19]Uchida et al. (2023).

Patient Preferences

- Across 4 studies reporting patient preference PED, treatment decisions were driven by perceived survival benefit, expected impact on HRQOL, and clinician recommendations.[6,7,13,20]
- Patients prioritized bladder preservation, sexual function, and treatment convenience, favoring BST to preserve body image and independence and avoid urinary diversion complications (Table 1).[7,20]

Table 1. Patient Quotes on Treatment Preferences for RC Versus TMT

Theme	Representative quote
Survival and risks	"I did not choose for radiotherapy because there is a slightly higher chance of relapse" (RC-urostomy)
Bladder preservation	"You only feel half human when your bladder is taken away" (TMT)
HRQOL and daily functioning	"I want to be able to do all my work well… Doing my house chores and cleaning, a little bit of everything" (TMT)
Sexual function	"I didn't want to be disabled, no libido anymore. No woman is going to stay with someone like that" (TMT)
Social functioning and body image	"I don't want to walk with a sign around my chest saying I am a cancer patient. I don't want pity. I am still the same as before" (TMT)
Treatment burden and recovery	"Not having to be hospitalized for so long helped in making my decision" (TMT)

Source: [20]Verghote et al. (2024).

Limitations

- Long-term survivorship data beyond 2 years were limited, particularly for Urinary, Sexual, Cognitive, Financial, and Psychosocial domains.
- Pooling treatment stages in several studies obscured the timing and cause of symptoms and impacts.
- Mixed populations, inconsistent reporting of cCRT-specific results, and unclear eligibility criteria limited treatment-specific conclusions.
- The 2015-2026 evidence base reflects evolving perioperative options for cisplatin-ineligible patients and may not fully represent current treatment pathways or patient experiences.

Disclosures

Pfizer and Astellas Pharma, Inc., sponsored the study; contributed to the design; participated in the collection, analysis, and interpretation of data; and participated in writing, reviewing, and approving the final version. No honoraria or payments were made for authorship. Medical writing support was provided by RTI Health Solutions and was funded by Pfizer and Astellas Pharma. MM, BB, and ADR are full-time employees of RTI Health Solutions, a subsidiary of RTI International, a nonprofit organization that conducts work for government, public, and private organizations, including pharmaceutical companies. RD is a full-time employee at Astellas Pharma. JL and AT are full-time employees at Pfizer.

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