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EDITORIAL COMMENT



Radical cystectomy (RC) is the standard of care for muscle-invasive and highest risk nonmuscle-invasive bladder cancer although is often burdened by a high rate of perioperative complications and a non-negligible mortality rate.^{1,2} In this study, the authors aimed to evaluate the impact of frailty, assessed through a claims-based frailty index extracting data from the US NRD, on perioperative outcomes of RC. More than 7% of patients were considered frail at time of surgery and frailty status was the strongest predictor of ICU-level complications as well as it was associated with a more than 2-fold increase of in-hospital mortality. Frailty was the main determinant of nonhome discharge and increased hospital costs, while, notably, medical comorbidity burden was not an independent predictor of frailty status. Therefore, frailty assessment is pivotal for an adequate risk stratification and preoperative counseling since comorbidity index, age and American Society of Anesthesiologists physical status classification alone seem not to be adequate.³

In this context, robot-assisted RC (RARC) has been introduced to minimize the complication burden of open RC (ORC) and its oncologic noninferiority has been adequately reported.^{4,5} However, although RARC is associated with more favorable perioperative features compared to ORC such as reduced estimated blood loss and hospital length of stay, a clear advantage of RARC over ORC still has to be proven. These results can be partly explained by the fact that RC is a procedure inherently affected by a notable risk of complications. In this scenario, frail patients, that express higher levels of inflammatory markers, hyperactivation of the coagulation system and altered metabolism compared with nonfrail counterparts,⁶ are those most likely to benefit from a robotic approach due to its intrinsic minimal invasiveness, reduced surgical stress, tissue trauma, and systemic inflammation.^{7,8} Conversely, RARC is often underused in frail patients as confirmed by the results of the present study.

In conclusion, frailty assessment before RC is crucial to better stratify and forecast patients' surgical risk and to provide a tailored preoperative counseling. The impact of frailty on perioperative and oncologic outcomes of RC deserves a critical appraisal in large prospective trials. Moreover, the benefit of interventions to prevent or reduce the level of frailty in patients with bladder cancer undergoing RC should be investigated.⁹ Indeed, prospective trials comparing ORC and RARC should consider the impact of frailty on surgical outcomes and the benefit of minimally-invasive approach in this specific cohort of patients.

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AUTHOR REPLY



We thank you for the positive editorial comments. We agree with the assertion that perioperative frailty assessment should be considered for patients undergoing a radical cystectomy. Our work focuses on a claims-based frailty assessment tool that may be practical in urologist's office visits. For example, a frailty score is calculated from prepopulated chart-data and further information about the patient's clinical assessment is added to determine their overall perioperative risk during the same office visit. Implementation of such assessment tools may also yield identification and management of frailty related issues before undergoing surgical intervention. However, we also observed that there are numerous frailty tools being used, but few studies have focus on delineating the "best" tool. Although we do not tackle this problem head on, our work adds further evidence that frailty assessment is critical and may be implemented into electronic medical record system.

Furthermore, we concur with the editor's comments that future prospective studies should consider stratifying patients by frailty status. Ideally patients should be stratify using various frailty assessment tools for comparison. Frailty can be a significant confounding factor hindering a true assessment of postoperative outcomes as we have reported. In this context, comparative surgical outcomes studies in patients undergoing open vs robotic-assisted radical cystectomy for bladder cancer should consider the impact of frailty.

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