Uro-Technology Journal 2026; 10(3): 85-91 ***85***
DOI: 10.31491/UTJ.2026.09.063

Creative Commons 4.0

Robot-assisted radical cystectomy with intracorporeal orthotopic neobladder reconstruction using the Hugo™ RAS: initial experience, optimization curve and perioperative outcomes

Víctor Enrique Corona-Montes[a, b, c, f, *], Richard Gaston[a, d, f], Pablo Juárez del Dago[a, f], Andrea Noya-Mourullo[a, f], Carlos González-Martínez[c, f], Alberto Breda[a, e, f]

[a] *Hospitales Universitarios San Roque, UROINTEC y Clínica de GUA. Gran Canaria, Spain.*
[b] *Centro Médico A.B.C (American British Cowdray). Cirugía Robótica. Observatorio. 01120 Ciudad de México, Mexico.*
[c] *Hospital General de México. "Dr. Eduardo Liceaga". Unidad de Uro-Oncología. Universidad Nacional Autónoma de México. (UNAM). Ciudad de México, Mexico.*
[d] *Department of Urology, Clinique Saint Augustin. Bordeaux, France.*
[e] *Fundació Puigvert. Unidad de Urología Oncológica y Trasplante. Barcelona, Spain.*
[f] *Technology Working Group of the EAU Robotic Urology Section (ERUS), Spain.*

This article belongs to the Special Issue: Technologic advances on robot-assisted radical cystectomy

Abstract

Objectives: To evaluate the surgical feasibility, perioperative safety, and early functional renal kinetics of totally intracorporeal orthotopic neobladder reconstruction (ICNR) following robot-assisted radical cystectomy (RARC) utilizing the novel modular Hugo™ RAS system.
Methods: We conducted a retrospective analysis of patients who underwent Hugo™ RAS-assisted RARC and ICNR. Procedures were performed using a standardized four-arm configuration with continuous intra-abdominal insufflation targeted at 12 mmHg. Bowel isolation and side-to-side continuity were established laparoscopically via an assistant port. Nonlinear smoothing was used to model the surgical learning curve and longitudinal changes in serum creatinine were analyzed using paired *t*-tests.
Results: Seven patients successfully underwent the procedure without any open or conventional laparoscopic conversions. The cohort had a median age of 70.0 years (IQR: 65.0–72.0) and a high comorbidity status (median Charlson comorbidity index: 5.0). The median total skin-to-skin surgical time was 290 minutes (IQR: 245–342), with platform docking requiring a highly reproducible median time of 19.0 minutes (IQR: 17.0–21.0). Nonlinear modeling showed an encouraging operational learning curve, with surgical duration contracting to an absolute low of 200 minutes by the sixth sequence. Median length of hospital stay was 4.0 days. No Clavien-Dindo grade ≥ III complications occurred; one patient developed a pulmonary thromboembolism after discharge, which was managed with therapeutic anticoagulation.. Longitudinal analysis showed immediate functional renal stability, yielding a uniform net decrease in serum creatinine levels at discharge relative to baseline.
Conclusion: Hugo™ RAS-assisted RARC with fully ICNR is technically feasible, reproducible, and safe. The platform's modular architecture provides efficient multi-quadrant workflows, a surmountable learning curve, and excellent early renal functional preservation.
Keywords: Bladder cancer robot-assisted radical cystectomy, intracorporeal urinary diversion, orthotopic neobladder reconstruction, Hugo™ RAS system, learning curve

* Corresponding author: Víctor Enrique Corona-Montes
Mailing address: Dr. Balmis 148, Col. de los Doctores, Alcaldía Cuauhtémoc, 06720 Ciudad de México, Mexico.
Email: urocorona@hotmail.com
Received: 02 July 2026 / Revised: 27 July 2026
Accepted: 04 August 2026 / Published: 30 September 2026

Introduction

Radical cystectomy (RC) with pelvic lymph node dissection (PLND) is the standard treatment for muscle-invasive bladder cancer (MIBC) and high-risk non-MIBC (NMIBC) refractory to intravesical therapy. However, the procedure

carries substantial perioperative morbidity and prolonged recovery. Over the past two decades, robot-assisted radical cystectomy (RARC) surged as a minimally invasive alternative, with an increasing trend toward intracorporeal urinary diversion, including orthotopic ileal neobladder reconstruction [1, 2]. While early randomized trials comparing RARC and open RC demonstrated lower blood loss but inconsistent benefits in complication rates and length of stay under extracorporeal workflows [3], contemporary evidence suggests that the clinical advantages of the robotic approach are optimized when preserving a completely intracorporeal environment [4].

Totally intracorporeal orthotopic neobladder reconstruction (ICNR) is among the most technically demanding urological procedures, requiring advanced bowel manipulation, urethro-ileal anastomosis and extensive suturing under prolonged operative times. Early adoption was restricted to pioneer, high-volume tertiary centers [5]. Initial historical experiences, such as the Karolinska series, confirmed the feasibility, safety and oncological adequacy of ICNR in selected cohorts [6]. Further single-center and multi-center data verified its general reproducibility, demonstrating that cumulative institutional experience significantly improves perioperative metrics, operative time and length of stay without compromising pathological quality [5-7].

Technical refinements have enhanced functional recovery. Posterior reconstruction techniques have been introduced to facilitate tension-free urethro-neobladder alignment and accelerate early continence [8]. Similarly, alternative configurations have been explored to optimize pouch compliance and volume [9]. Data from the International Robotic Cystectomy Consortium confirm the global expansion of ICNR, showing shorter lengths of stay and fewer re-operations relative to extracorporeal approaches, though readmission rates remain a challenge [10]. Nonetheless, precise patient selection remains vital to achieving satisfactory long-term functional and oncological endpoints [10].

The evolution of intracorporeal urinary diversion has recently intersected with the introduction of new modular robotic platforms, spurred by the expiration of legacy patents. The Hugo™ RAS system features independent patient-side arm carts, an open console configuration, and flexible docking strategies [11, 12]. Rocco et al. reported the first case of RARC and ICNR with this platform, establishing technical feasibility without conversion, though the absence of integrated robotic staplers necessitated laparoscopic stapling via assistant ports [11, 12]. Early multi-institutional data from the European Association of Urology Robotic Urology Section confirmed the multicenter reproducibility and short-term safety of the platform across 29 patients [13].

At present, evidence regarding Hugo™ RAS-assisted ICNR remains incipient. Key clinical questions persist regarding the impact of modular arm carts on docking complexity, operational workflows, and external collisions during extensive multi-quadrant reconstructions [12, 13]. Furthermore, its reproducibility across broader surgical settings, instrument ergonomics, long-term oncological safety, and durable functional or urodynamic outcomes remain uncharacterized [5, 6].

Here, we aimed to report our institutional experience with Hugo™ RAS-assisted RARC and ICNR, evaluating surgical feasibility, perioperative parameters and early oncological and functional results.

Materials and methods

Study design and patient selection

We conducted a retrospective, single-center review of an institutional database tracking patients who underwent RARC with ICNR using the Hugo™ RAS system (Medtronic, Minneapolis, MN, USA). Patients were selected for surgery based on standard international guidelines, including the presence of MIBC or high-risk, recurrent NMIBC refractory to intravesical therapies, in the absence of bulky distant metastatic disease. The choice of an orthotopic ileal reservoir rather than an ileal conduit was dictated by a combination of clinical criteria, including favorable age, a high functional status, adequate baseline renal function, an absence of severe urethral stricture disease, and motivated compliance with intensive postoperative bladder rehabilitation protocols.

Hugo™ RAS platform architecture and operating room configuration

All procedures were carried out utilizing the modular, multi-cart architecture of the Hugo™ RAS platform. Unlike integrated, single-structure robotic setups, this system relies on four independent, patient-side arm carts surrounding the operating table. Surgeons operated via an open-console setup utilizing high-definition 3D glasses with infrared head-tracking safety sensors. Prior to standard docking, patients were placed in a steep Trendelenburg position (25° to 30°) with a split-leg configuration to allow unhindered access for the vaginal or rectal surgical assistant. The positioning and angling of the independent carts were structured to allow both extensive pelvic dissection and wide-field mid-abdominal bowel manipulation without requiring intraoperative re-docking:

• Arm configuration and docking: a standard four-arm linear/semi-circular configuration was adopted.

• Trocar placement: dedicated 8 mm robotic trocars were utilized for the automated arms. For assistant maneuvers, including clip application, traction, and the insertion of standard laparoscopic endoscopic stapling lines for bowel division, a dedicated assistant port workflow was maintained (predominantly standard 12 mm or 5 mm laparoscopic ports).

• Insufflation: standard pneumoperitoneum was initiated and tightly targeted at a continuous intra-abdominal pressure of 12 mmHg.

Surgical technique and intracorporeal reconstruction workflow

The surgical procedure was standardized across the series

and divided into distinct, consecutive phases executed entirely within the intracorporeal environment:

• RC and PLND: in male patients, a standard retrograde or antegrade cystoprostatectomy was performed, sparing neurovascular bundles when oncologically feasible. In female patients, an anterior exenteration was carried out. Standard bilateral PLND was finalized before reconstructive steps.

• Urethro-ileal anastomosis: the initial step of the reconstruction began with the identification of the target urethral stump. A tension-free urethro-ileal anastomosis was performed using continuous barbed suturing, ensuring precise mucosal alignment over an indwelling catheter.

• Bowel isolation and intracorporeal neobladder formulation: a 40–50 cm segment of healthy terminal ileum, roughly 15–20 cm proximal to the ileocecal valve, was isolated. Bowel division and subsequent side-to-side ileo-ileal continuity were re-established using standard laparoscopic linear cutting staplers introduced via the assistant port. The isolated loop was detubularized along its antimesenteric border, folded into an orthotopic configuration, and the detubularized walls were closed extensively using continuous absorbable suturing.

• Ureteroenteric anastomosis: ureters were dropped into the posterior aspect of the newly formed pouch. Ureteroenteric reimplantation was completed using an open-ended, continuous or interrupted suture technique over temporary exteriorized double-J ureteral stents.

Perioperative care and follow-up protocols

Patients were managed with early mobilization, early solid food introduction, and restrictive fluid management. Serum creatinine was monitored at baseline (preoperative), postoperative day 1 (POD 1), and at hospital discharge to evaluate acute kidney injury. Postoperative complications were recorded and graded according to the Clavien-Dindo classification system. Severe complications were defined as any event graded ≥ III. Following discharge, patients underwent clinical monitoring evaluating voiding efficiency, post-void residual volumes, and structural pouch dynamics.

Statistical analysis

Continuous variables were reported as medians with interquartile ranges (IQR). Categorical variables were summarized as absolute counts and percentages. Longitudinal changes in paired serum creatinine over time were analyzed using two-tailed paired *t*-tests for cases with complete data records. To characterize the institutional learning and operational optimization curve over time, total surgical times were plotted chronologically by case sequence. A non-parametric locally estimated scatterplot smoothing curve was applied to model the visual trajectory of operative times, allowing for a flexible data-driven assessment of surgical efficiency gains without imposing a rigid linear structure. Statistical significance was designated as a two-sided $P < 0.05$. All analyses were conducted using R statistical software version 4.6.1.

Table 1. Baseline demographic characteristics and perioperative outcomes of patients undergoing Hugo™ RAS robot-assisted radical cystectomy with intracorporeal orthotopic neobladder reconstruction. Total surgical time refers to skin-to-skin duration. Console time and docking time specify platform-specific intraoperative metrics.

Variable	*n* = 7
Age (years)	70.0 (65.0, 72.0)
Sex (%)	
Female	1 (14.3%)
Male	6 (85.7%)
Charlson comorbidity index	5.0 (4.0, 5.0)
Total surgical time (min)	290 (245, 342)
Console time (min)	237 (210, 309)
Docking time (min)	19.0 (17.0, 21.0)
Estimated blood loss (mL)	1,075 (800, 1,275)
Unknown	3
Length of hospital stay (days)	4.0 (3.0, 5.0)
Unknown	1

Note: Median (IQR); *n* (%)

Results

Baseline characteristics and perioperative outcomes

A total of 7 selected patients successfully underwent Hugo™ RAS RARC with ICNR during the study period. Baseline demographics and detailed intraoperative parameters are summarized in Table 1. The cohort was predominantly male (85.7%, $n = 6$) with a median age of 70.0 years (IQR: 65.0–72.0). Patients presented with a significant comorbidity burden, reflected by a median Charlson comorbidity index of 5.0 (IQR: 4.0–5.0). Every procedure was executed entirely with the robotic platform without open or conventional laparoscopic conversion. The modular architecture of the Hugo™ RAS system achieved efficient intraoperative workflows. The median total surgical skin-to-skin time was 290 minutes (IQR: 245–342), with a median console time of 237 minutes (IQR: 210–309). Platform docking proved highly reproducible, requiring a median time of 19.0 minutes (IQR: 17.0–21.0). Regarding perioperative safety and recovery metrics, the median estimated blood loss was 1,075 mL (IQR: 800–1,275; $n = 4$ available records). Postoperative recovery was optimized within an accelerated pathway, yielding an exceptionally short median length of hospital stay of 4.0 days (IQR: 3.0–5.0; $n = 6$ available records).

Operative workflow and optimization curve

The chronological evolution of total surgical times (skin-to-skin duration) showed an encouraging operational learning and optimization profile (Figure 1). The initial phase of the experience was characterized by expected procedural adjustments, with operative times ranging between 245 and 342 minutes across the first three cases. However, as the institutional surgical team and console

ANT PUBLISHING CORPORATION | All Rights Reserved

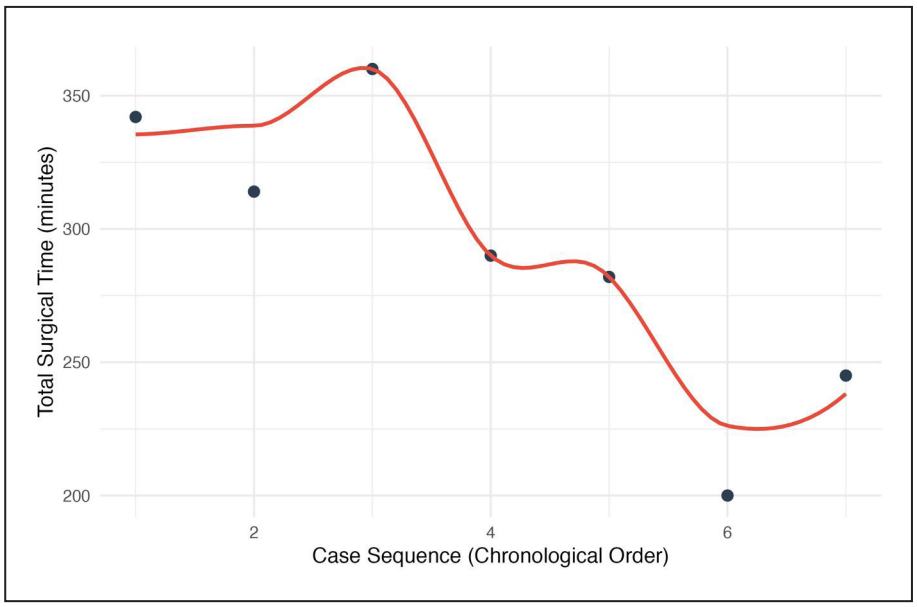


Figure 1. Operational optimization curve for Hugo™ RAS robot-assisted radical cystectomy and intracorporeal orthotopic neobladder reconstruction. Scatter plot with a locally estimated scatterplot smoothing (LOESS) displaying the chronological sequence of cases (x-axis) against the total surgical time in minutes (y-axis, skin-to-skin duration). The trajectory illustrates a distinct procedural optimization trend, transitioning from early technical adaptation phases (peaking at ~342 minutes) to an institutional efficiency benchmark of 200–290 minutes by the conclusion of the initial series. This progression highlights the platform's technical reproducibility and a relatively rapid learning curve for experienced robotic teams transitioning to modular multi-cart architectures.

surgeons accumulated familiarity with the platform's independent arm configurations and modular docking mechanics, a noticeable trend toward efficiency emerged. By the sixth sequential procedure, total surgical time dropped to an absolute cohort low of 200 minutes, subsequently stabilizing at 290 minutes for the final case. This chronological contraction in operative time occurred without any compromise in intraoperative safety or reconstructive precision, signaling an efficient institutional transition to the Hugo™ RAS platform for high-complexity multi-quadrant pelvic reconstructions.

Pathological analysis

Among the 4 patients with complete pathological staging available, a complete pathological response to neoadjuvant chemotherapy (ypT0N0) was observed in 2 patients (50.0%). The remaining 2 patients exhibited downstaged or localized disease, consisting of ypT0N1 (25.0%, n = 1) and ypT1N2 (25.0%, n = 1). Regarding specimen quality and oncological safety, surgical margins were evaluable in 2 cases and were strictly negative; no positive surgical margins were recorded. Histological subtyping among available specimens (n = 3) reported conventional urothelial carcinoma in 1 patient (33.3%), invasive urothelial carcinoma with glandular differentiation in 1 patient (33.3%), and focal urothelial dysplasia without evidence of residual invasive tumor in 1 patient (33.3%). Nuclear grading was unavailable across the cohort due to the high

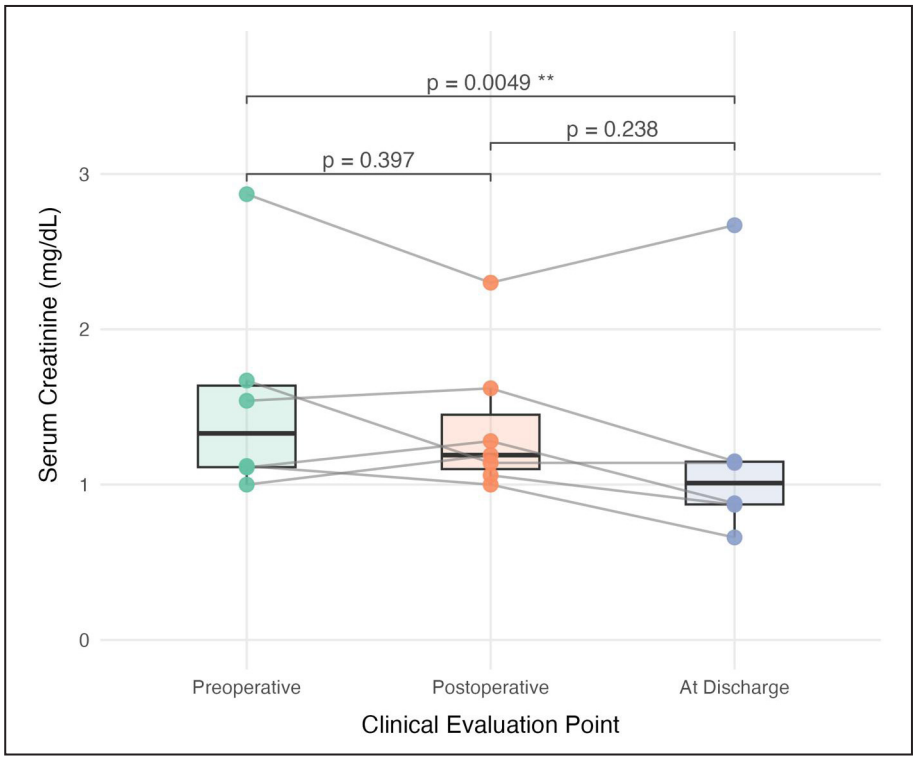


Figure 2. Longitudinal trajectory and stability of renal function following Hugo™ RAS robot-assisted radical cystectomy and intracorporeal orthotopic neobladder reconstruction. Individual patient trajectories (gray connecting lines) and boxplots illustrating serum creatinine distribution across three distinct perioperative timepoints: preoperative baseline, postoperative day 1 (Postoperative), and at hospital discharge. Statistical significance was determined using two-tailed paired t-tests on available pairs.

rate of complete pathological responses and missing registry segments.

Changes in renal function over time

Serum creatinine values were evaluated longitudinally at preoperative baseline, on POD 1, and at hospital discharge to assess the impact of Hugo™ RAS-assisted radical cystectomy and ICNR on renal preservation (Figure 2). The median preoperative serum creatinine was 1.12 mg/dL (IQR: 1.11–1.67). Following surgery, renal function demonstrated immediate stability, with a median creatinine of 1.19 mg/dL (IQR: 1.03–1.45) on POD 1, without significant deviation from baseline (P = 0.397). By the time of hospital discharge, functional parameters significantly improved or stabilized across the cohort, yielding a median creatinine of 0.88 mg/dL (IQR: 0.77–1.14). Paired longitudinal analysis showed that among all patients with complete baseline and discharge records (n = 5), 100% exhibited a net decrease in serum creatinine levels at discharge relative to their preoperative values (P = 0.005). This uniform stabilization reflects the safety of the ICNR approach and confirms the absence of early acute kidney injury or severe obstructive uropathy.

Intraoperative and postoperative complications

No major clinical intraoperative complications occurred during any of the procedures. However, technical or system-related incidents were documented in 2 out of the 7 cases (28.6%). Specifically, these consisted of transient instability in the pneumoperitoneum maintenance system, where the surgical team experienced minor difficulties keeping the insufflation pressure constant at the target 12 mmHg. These pneumatic variations were managed safely intraoperatively without requiring conversion to an open approach or interrupting the surgical flow.

Postoperative complications and follow-up data were evaluable in 4 patients. Minor complications occurred in 2 patients (50.0%), both classified as Clavien-Dindo grade II, which resolved completely with standard management during the initial hospital stay. Regarding late or post-discharge adverse events, 1 female patient (14.3% of the total cohort; 25.0% of the evaluable follow-up cohort) required an unplanned hospital readmission due to a confirmed pulmonary thromboembolism. She was successfully managed with systemic therapeutic anticoagulation alone, without invasive intervention, and recovered without further deterioration. Additionally, this patient experienced early voiding dysfunction/incomplete bladder emptying following catheter removal, which was managed conservatively with a temporary indwelling Foley catheter to monitor reservoir dynamics and capacity during outpatient follow-up. Apart from the thromboembolic event described above, no complications of Clavien-Dindo grade ≥ III were recorded.

Discussion

In this single-center retrospective study, our series demonstrates the safety, technical feasibility, and procedural reproducibility of performing totally ICNR following RC using the Hugo™ RAS system. All seven complex cases were completed entirely through the robotic platform without open or conventional laparoscopic conversion. The low median docking time (19.0 minutes) and highly favorable median length of hospital stay (4.0 days) indicate that the modular architecture can seamlessly support efficient workflows. Our findings contribute an early institutional validation that high-complexity, multi-quadrant pelvic surgery and bowel reconstruction can be successfully achieved with this novel platform without compromising immediate perioperative safety, contributing to show its expanding utility in advanced oncologic urology.

Assessment of our learning curve shows a notable chronological contraction in total operative time, which dropped to a cohort minimum of 200 minutes by the sixth procedure. This rapid stabilization highlights a highly surmountable learning curve for surgical teams already experienced in robotic surgery, aligning with early efficiency gains observed during the implementation of this multicart system for other complex pelvic procedures [14]. A key structural feature of the Hugo™ RAS system is its independent arm configuration, which allows for customizable positioning to achieve dual-zone visualization without requiring intraoperative re-docking [11]. However, because the platform currently lacks integrated robotic stapling instruments, bowel isolation and side-to-side continuity required standard laparoscopic staplers managed via an assistant port [11-13]. This technical workflow demands close synchronization between the console surgeon and the bedside assistant to optimize ergonomics and prevent external cart collisions.

The intraoperative and postoperative safety profiles in our cohort compare favorably with established multi-center benchmarks. The technical incidents involving transient pneumoperitoneum instability around the target 12 mmHg represent a platform-specific nuance that was managed safely without interrupting the surgical flow. Postoperatively, the absence of high-grade complications during the early recovery window highlights the reconstructive precision enabled by the system. In larger contemporary series utilizing established robotic systems, major 30-day postoperative complication rates for intracorporeal diversions frequently range from 10% to 20% [4, 13]. Furthermore, the single post-discharge readmission for a pulmonary thromboembolism highlights the persistent, system-independent risk of thromboembolic events inherent to major pelvic oncologic surgery, re-emphasizing the necessity of strict adherence to standard extended mechanical and pharmacological thromboprophylaxis protocols [15].

A particularly encouraging finding was the early preservation of renal function, with all patients with complete paired records showing a net stabilization or decrease in serum creatinine levels by the time of hospital discharge. This uniform downward trend indicates the successful avoidance of early acute kidney injury and confirms the absence of high-grade, clinically significant ureteroenteric or urethro-ileal anastomotic obstruction. These functional

ANT PUBLISHING CORPORATION | All Rights Reserved

results are supported by preliminary evaluations of other newly developed robotic systems, which suggest that precise multi-jointed articulation and stable high-definition magnification facilitate reliable, watertight running sutures during delicate intracorporeal anastomoses [16].

Our study had some strengths and limitations. The main strength of our study lies in providing one of the first focused series describing totally ICNR with the modular Hugo™ RAS system, complemented by structured chronological tracking of surgical efficiency and granular reporting of early renal kinetics. Nonetheless, some limitations must be acknowledged to adequately interpret our findings. First, the retrospective nature and small cohort size reflect an early institutional experience, which limits generalizability and statistical power. Second, completeness of follow-up and pathological documentation was constrained for several registry segments due to the highly contemporary nature of the cohort. Finally, long-term functional endpoints such as standardized 12-month urodynamic compliance assessments, daytime and nighttime continence rates, and definitive oncological survival metrics remain to be established [10]. Large-scale, prospective multi-center comparative trials against established robotic systems are required to definitively establish the long-term clinical and economic profile of this platform.

Our initial institutional experience demonstrates that totally ICNR following RC is technically feasible and reproducible utilizing the modular, multi-cart architecture of the Hugo™ RAS system. Despite the platform's current lack of integrated robotic stapling devices, the surgical team achieved stable and efficient intraoperative workflows characterized by low docking times and an encouraging chronological contraction in total operative skin-to-skin duration, stabilizing well below five hours by the conclusion of the initial series. Furthermore, our protocol yielded excellent early perioperative safety profiles, an exceptionally brief median length of hospital stay within an optimized recovery pathway, and a uniform post-discharge stabilization of serum creatinine levels confirming immediate functional renal preservation. While these early outcomes highlight the platform's capability to successfully support high-complexity, multi-quadrant reconstructive pelvic procedures without major technical failures or high-grade complications, they represent the results of a highly selected, single-center cohort. Prospective, large-scale multi-center registries with long-term follow-up remain necessary to definitively establish the comparative cost-effectiveness, oncological safety, and durable functional or urodynamic superiority of this novel robotic platform against conventional surgical standards.

Conclusions

Our initial institutional experience demonstrates that robot-assisted radical cystectomy with intracorporeal neobladder reconstruction using the Hugo™ RAS platform is technically feasible and can be successfully implemented for complex urinary diversion without conversion to open surgery. Across this early series, the platform enabled completion of all reconstructive steps intracorporeally, with reproducible docking times, an encouraging reduction in operative duration over consecutive cases, and acceptable perioperative safety despite the technical complexity of the procedure.

Early postoperative outcomes were favorable, including short hospital stays, preservation of renal function, and a low incidence of major complications. Although isolated technical issues related to pneumoperitoneum maintenance were encountered, these were managed intraoperatively without compromising procedural completion or patient safety. The observed learning curve further suggests that increasing institutional familiarity with the modular architecture of the Hugo™ RAS system may translate into progressive improvements in operative efficiency. Consequently, these findings should be interpreted as preliminary and hypothesis-generating rather than definitive evidence of superiority or equivalence.

Nevertheless, this report provides one of the earliest descriptions of intracorporeal orthotopic neobladder reconstruction performed with the Hugo™ RAS system and supports its potential applicability to highly complex multi-quadrant pelvic surgery. Larger prospective, multicenter studies with longer oncological and functional follow-up are warranted to validate these preliminary findings and to determine the reproducibility, cost-effectiveness, and long-term outcomes of this emerging robotic platform.

Declarations

Author contributions: Made substantial contributions to conception and design of the study: Gaston R, Breda A, Corona-Montes VE; performed data analysis and interpretation: Juárez del Dago P, Noya-Mourullo A; performed data acquisition, as well as provided administrative, technical, and material support: Noya-Mourullo A, González-Martínez C; drafted the work: Corona-Montes VE. All authors read and approved the final manuscript.

Availability of data and materials: The datasets analyzed during the current study are available from the corresponding author upon reasonable request.

Financial support and sponsorship: None.

Conflicts of interest: All authors declared that there are no conflicts of interest.

Ethical approval and informed consent: This retrospective study was approved by the Ethics Committee of Hospital General de México "Dr. Eduardo Liceaga" (Ciudad de México, Mexico). Owing to its retrospective design, the requirement for individual informed consent was waived by the committee.

Consent for publication: Not applicable.

References

1. Sivarajan G, & Akhter M. Effect of robot-assisted radical cystectomy *vs.* open radical cystectomy on 90-day morbidity and mortality among patients with bladder cancer. *JAMA*, 2022, 328(12): 1257-1258. [Crossref]
2. Mastroianni R, Ferriero M, Tuderti G, Anceschi U, Bove A, Brassetti A, *et al*. Open radical cystectomy versus robot-assisted radical cystectomy with intracorporeal urinary diversion: early outcomes of a single-center randomized controlled trial. *J Urol*, 2022, 207(5): 982-992. [Crossref]
3. Bochner B, Dalbagni G, Sjoberg D, Silberstein J, Keren Paz G, Donat S, *et al*. Comparing open radical cystectomy and robot-assisted laparoscopic radical cystectomy: a randomized clinical trial. *Eur Urol*, 2015, 67(6): 1042-1050. [Crossref]
4. Dalimov Z, Iqbal U, Jing Z, Wiklund P, Kaouk J, Kim E, *et al.* Intracorporeal versus extracorporeal neobladder after robot-assisted radical cystectomy: results from the international robotic cystectomy consortium. *Urology*, 2022, 159: 127-132. [Crossref]
5. Schwentner C, Sim A, Balbay M, Todenhöfer T, Aufderklamm S, Halalsheh O, *et al*. Robot-assisted radical cystectomy and intracorporeal neobladder formation: on the way to a standardized procedure. *World J Surg Oncol*, 2015, 13: 3. [Crossref]
6. Collins J, Sooriakumaran P, Sanchez-Salas R, Ahonen R, Nyberg T, Wiklund NP, *et al*. Robot-assisted radical cystectomy with intracorporeal neobladder diversion: the Karolinska experience. *Indian J Urol*, 2014, 30(3): 307-313. [Crossref]
7. Collins J, Tyritzis S, Nyberg T, Schumacher M, Laurin O, Adding C, *et al*. Robot-assisted radical cystectomy (RARC) with intracorporeal neobladder–what is the effect of the learning curve on outcomes? *BJU Int*, 2014, 113(1): 100-107. [Crossref]
8. Rocco B, Luciani L, Collins J, Sanchez-Salas R, Adding C, Mattevi D, *et al*. Posterior reconstruction during robotic-assisted radical cystectomy with intracorporeal orthotopic ileal neobladder: description and outcomes of a simple step. *J Robot Surg*, 2021, 15(3): 355-361. [Crossref]
9. Koie T, Ohyama C, Yoneyama T, Nagasaka H, Yamamoto H, Imai A, *et al*. Robotic cross-folded U-configuration intracorporeal ileal neobladder for muscle-invasive bladder cancer: initial experience and functional outcomes. *Int J Med Robot*, 2018, 14(6): e1955. [Crossref]
10. Wong C, Ko I, Kang S, Kitamura K, Horie S, Muto S, *et al*. Long-term outcomes of orthotopic neobladder versus ileal conduit urinary diversion in robot-assisted radical cystectomy (RARC): multicenter results from the Asian RARC consortium. *Ann Surg Oncol*, 2024, 31(9): 5785-5793. [Crossref]
11. Rocco B, Sighinolfi M, Sarchi L, Assumma S, Turri F, Sangalli M, *et al*. First case of robot-assisted radical cystectomy and intracorporeal neobladder reconstruction with the Hugo RAS system: step-by-step surgical setup and technique. *J Robot Surg*, 2023, 17(5): 2247-2251. [Crossref]
12. Gaya J, Uleri A, Sanz I, Basile G, Verri P, Hernandez P, *et al*. Robot-assisted radical cystectomy and ileal conduit with Hugo™ RAS system: feasibility, setting and perioperative outcomes. *Int Braz J Urol*, 2023, 49(6): 787-788. [Crossref]
13. Scuderi S, Rautiola J, Sighinolfi C, Prata F, Bogdanovic D, Tedesco F, *et al*. Surgical technique and perioperative and postoperative outcomes for robot-assisted radical cystectomy with intracorporeal urinary diversion performed with the Hugo RAS robotic platform: first large case series by the European Association of Urology Robotic Urology Section Scientific Working Group. *Eur Urol Open Sci*, 2026, 85: 82-89. [Crossref]
14. Rottoli M, Violante T, Calini G, Cardelli S, Novelli M, & Poggioli G. A multi-docking strategy for robotic LAR and deep pelvic surgery with the Hugo RAS system: experience from a tertiary referral center. *Int J Colorectal Dis*, 2024, 39(1): 154. [Crossref]
15. Klaassen Z, Arora K, Goldberg H, Chandrasekar T, Wallis C, Sayyid R, *et al*. Extended venous thromboembolism prophylaxis after radical cystectomy: a call for adherence to current guidelines. *J Urol*, 2018, 199(4): 906-914. [Crossref]
16. Hayashi T, Kitano H, Hieda K, & Hinata N. First case report of robot-assisted radical cystectomy and intracorporeal urinary diversion using the hinotori Surgical Robot System. *Transl Cancer Res*, 2024, 13(1): 471-479. [Crossref]

Cite this article as: Corona-Montes VE, Gaston R, Juárez del Dago P, Noya-Mourullo A, González-Martínez C, & Breda A. Robot-assisted radical cystectomy with intracorporeal orthotopic neobladder reconstruction using the Hugo™ RAS: initial experience, optimization curve and perioperative outcomes. *Uro-Technology Journal*, 2026, 10(3): 85-91. doi: 10.31491/UTJ.2026.09.063

ANT PUBLISHING CORPORATION | All Rights Reserved