

LETTER TO EDITOR

Feasibility of simultaneous single port robot-assisted radical prostatectomy and partial nephrectomy in spinal and opioid-sparing general anaesthesia without tracheal intubation

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KEY WORDS: Simultaneous RAPN and RARP; Synchronous prostate and kidney cancers; Single port.

Submitted 6 January 2026; Accepted 30 January 2026

To the Editor,

The incidence of second primary cancer detection in patients with *prostate cancer* (PCa), undergoing cross-sectional imaging for staging workup, is 1.5% (1).

From Patel's pioneering report in 2009 until now, combined robot assisted surgery has been demonstrated to be feasible and safe (2-7). Unneglectable advantages are represented by reduced abdominal trauma, shorter recovery times, and lower hospitalization costs. However, combining these surgical procedures require meticulous surgical planning and advanced expertise in robotic surgery.

In the urological field several reports describe combined multiport robot assisted surgery. The treatment of synchronous PCa and *renal cell carcinoma* (RCC) by performing a *robot-assisted partial nephrectomy* (RAPN) and *robot-assisted radical prostatectomy* (RARP), reusing port incisions, as well as simultaneous nerve-sparing RARP, ureterectomy and diverticulectomy in a patient with PCa, kidney aplasia, ureterocele, and bladder diverticulum have been reported (2, 4). Furthermore, Khalil et al. presented a case report in which they performed a prostatectomy simultaneously with a ureterectomy and a heminephrectomy for an anomaly of the upper urinary tract due to an ectopic ureter insertion into the prostatic urethra, by a robot assisted single-port approach (6). Simultaneous Retzius-sparing RARP and RAPN and a bilateral robot-assisted laparoendoscopic single-site partial nephrectomy and standard prostatectomy were also reported (7, 8). A case of a combined upper- and lower-tract robotic surgery for a double-left-partial nephrectomy associated with radical prostatectomy by the transperitoneal approach has also been described (9).

To the best of our knowledge, this is the first case reported of simultaneous single port robot assisted radical prostatectomy (SP-RARP) and partial nephrectomy (SP-RAPN), in spinal and opioid sparing general anaesthesia without tracheal intubation, with an extraperitoneal, sutureless, zero ischemia approach.

A 55-year-old man with a PSA of 5 ng/mL, diagnosed with PCa and suspect renal cancer, was referred to our robotic oncology centre. The fusion prostatic biopsy revealed an adenocarcinoma Gleason Grade Group 3 with no extracapsular extension at the prostate magnetic resonance. A contrast-enhanced computed tomography scan of staging showed a 2.5 cm exophytic mass of the lower pole of left kidney. Bone scan showed no metastasis. He had no comorbidity or previous surgery. The patient underwent RS-RARP and RAPN in the same setting. Pelvic lymph node dissection was omitted according with the predicted probability of lymph node metastasis based on clinical information (10).

After a premedication with midazolam (2 mg I.v.), a subarachnoid anaesthesia was performed with levobupivacaine 0.5%, 15 mg, 3 mL, achieving T9-10 level, combined with a general anaesthesia in spontaneous breathing with laryngeal mask, using target-controlled infusion of propofol sedation (range 4-6 µg/mL) with Bispectral index between 40-60. RARP was performed as first, being the faster procedure with lower risk of blood loss. With the patient in supine position and a Trendelenburg tilt at 7°, a 3.5 cm infraumbilical midline incision was made to access the extraperitoneal space, which was then developed using blunt dissection. The SP access port was inserted, and the *DaVinci-SP Robotic Surgical System* (Intuitive Surgical, Sunnyvale, CA, USA) was docked. The endopelvic fascia was incised, the puboprostic ligaments cut, the dorsal vein sutured. The bladder neck was incised and the foley lifted using the Cadieere forceps, seminal vesi-

cles were dissected and the posterior plane was developed distally up to the apex. The urethra was transected and the specimen left in the 'fish ball'. We used a QuillTMbi-directional barbed suture 3.0 for the anastomosis.

Then, we performed a low anterior 3.5 cm skin incision at the level of the McBurney point. The anterior abdominal fascia was incised, the underlying muscles spread, reaching the preperitoneal fat. The access port and the assistant port were placed and the da Vinci SP system was docked again. After the identification of the Psoas muscle, the gonadal vessels and ureter were followed to identify the renal vessels. The renal capsule was scored to delineate the boundaries of resection. The tumour was excised under zero ischemia, and the sutureless procedure ended with Tabotamp® and FloSeal (Baxter, Deerfield, IL) placed on the resection bed. The specimen was located in a retrieval bag and then removed.

Total console time for RARP and RAPN was 68 and 91 minutes, respectively. Blood loss was 200 mL (RARP, 50 mL and RAPN, 150 mL). On postoperative day 1 semisolid oral intake was resumed and retroperitoneal drainage tube was removed. The patient's postoperative course was unremarkable, and he was discharged on postoperative day 2.

Final pathology showed a prostatic acinar adenocarcinoma, Gleason Grade Group 3, organ-confined with negative margins, and a clear-cell renal carcinoma, pathologic stage pT1a, with negative margins. At 3-month follow-up, his PSA was undetectable, and no evidence was present of residual kidney cancer.

Several disadvantages are associated with a combined robotic surgery: a longer operating time with prolonged general anesthesia and pneumoperitoneum, a higher risk of perioperative complications, such as deep venous thrombosis, pulmonary embolism and compartment syndrome of the leg.

The SP robotic system, by an extraperitoneal approach, avoids any intestinal mobilization and the supine position, particularly useful in obese patients and in cases of respiratory distress, avoids the risks associated with the Trendelenburg tilt, such as increased intracranial pressure, respiratory and cardiovascular compromise. Moreover, it further minimizes surgical trauma, enhances cosmesis and expedites recovery.

Our experience shows that combined surgeries can be performed safely with good perioperative outcomes by an experienced surgical and anesthesiologist team. Furthermore, the spinal and opioid sparing general anaesthesia without tracheal intubation offered a satisfying state of relaxation for the surgeon and a good pain control for the patient.

Unless the combined approach has not been established as the standard for simultaneous treatment of prostate and renal cancer, due to robotic surgery growing, it should be considered in selected cases.

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DECLARATIONS

Ethical approval and consent for participate: Not applicable.

Consent for publication: Not applicable.

Availability of data and material: Not applicable.

Competing interests: The authors declare that they have no competing interests.

Funding: No.

Authors' contributions: PG manuscript original drafting, manuscript writing and editing. DRA, RD, MM, LN, SL manuscript editing. All the authors read and approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

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