The Use of the da Vinci SP System for Retzius-sparing Radical Prostatectomy in Cadaveric Model

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OBJECTIVE
To evaluate the use of a new single-port robotic system, da Vinci SP (Intuitive Surgical, Sunnyvale, CA) in performing retzius-sparing radical prostatectomy in a cadaveric model.

METHODS
A cadaver was placed in supine position on operating table. A 4-cm skin incision was made above the umbilicus for insertion of the robotic port via a GelPoint Mini Advanced Access Platform (Applied Medical, Rancho Santa Margarita, CA). An additional 10-mm assistant port was inserted in the right lower quadrant. The operating table was then placed at a 30° Trendelenburg position and the robotic system was docked. The robotic endoscopic camera was set to pass in at the 6 o’clock to facilitate upward viewing during surgery. The parietal peritoneum was incised at the anterior surface of the rectovesical pouch. Vas deferens and seminal vesicles were dissected. Posterior dissection was performed till the prostatic apex. Lateral dissection was then performed with division of the prostatic pedicles. The dissection was continued distally and anteriorly until reaching the apical region. The lateral contour of the prostate was defined. The vesicoprostatic junction was identified by careful dissection of the perivesical fat and following the contour of the lateral prostasfic surface. Bladder neck was identified and incised. Prostate was then retracted downward and the anterior prostatic surface was dissected. Finally, urethra was divided just distal to prostatic apex after urethra catheter withdrew. The vesicourethral anastomosis was completed with 2 barbed sutures.

RESULT
The procedure was completed without conversion and the total robotic surgical time was 146 minutes.

CONCLUSION
The use of da Vinci SP system (Intuitive Surgical, Sunnyvale, CA) for retzius sparing radical prostatectomy was feasible. The flexible robotic camera provides additional benefit in viewing the operating field, in particular during the posterior dissection, bladder dissection, and anastomosis.