Robotic-assisted simple prostatectomy with complete urethrovesical reconstruction

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SURGICAL TECHNIQUE

Minimally invasive treatment options for large prostatic adenomas include Holmium laser prostatectomy and laparoscopic simple prostatectomy. We describe a technique of robotic simple prostatectomy with complete urethrovesical reconstruction.

A five-port technique is used. After docking the da Vinci robot the retropubic space is entered and the fat over the prostato-vesical junction is cleaned to identify the bladder neck. An incision is made over the prostatic capsule at the level of the bladder neck. A plane is created between the prostate capsule and adenoma. Under direct vision, the entire prostatic adenoma is shelled from the prostatic fossa. The hand-stimulated endo-wrist movements of the robotic arms in the capsular plane allow for haemostatic and meticulous dissection and prevent avulsion of the prostatic capsule. The three-dimensional vision coupled with magnification allows for a precise apical dissection, thereby avoiding injury to the external sphincter. A complete urethrovesical anastomosis is performed using a 3-0 barbed vicryl suture. A catheter is left postoperatively for three days and removed following an MCU. Complete urethrovesical reconstruction is possible with excellent vision and assisted suturing using the da Vinci robot. This maneuver completely obliterates the prostatic cavity and has the potential for better haemostasis and early catheter removal.

A hemlok clip removal was used to unlock the clips; first, the proximal venous control followed by the distal venous control was released. Thereafter, arterial perfusion was achieved. Hemostasis at the anastomosis site, at the renal hilum and on the surface of both kidneys was checked. Pneumatic pressure was reduced to 6 mm Hg for better perfusion of the allograft.

Bladder was made partially full through previously placed Y set connected to Foley’s catheter. Both ureters were reimplanted separately by modified Lich-Gregor technique. No stents were used.

A drain tube was placed in the pouch of Douglas. Port wounds were closed by Thompson Carter needle.

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Three patients with large prostatic adenomas have undergone robotic simple prostatectomy with complete urethrovvesical reconstruction. The mean operative time was 220 min with a mean blood loss of 160 ml. None of the patients required bladder irrigation postoperatively. A micturating cystourethrogram was performed on postoperative Day 3 which demonstrated excellent healing. The mean hospital stay was 3.5 days.

Robotic simple prostatectomy with complete urethrovvesical reconstruction is a minimally invasive technique for large prostatic adenomas which provides excellent outcomes.

How to cite this article: Dubey D, Hemal AK. Robotic-assisted simple prostatectomy with complete urethrovvesical reconstruction. Indian J Urol 2012;28:231-2.