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Surgery Illustrated – Focus on Details
Single 1-cm port laparoscopic radical prostatectomy

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ILLUSTRATIONS by STEPHAN SPITZER, www.spitzer-illustration.com

INTRODUCTION

Laparoscopic radical prostatectomy is performed using five to six laparoscopic ports. In the published techniques of laparoscopic and robotic-assisted surgery, two to three of these ports are 10 or 12 mm in size to allow for passage of graspers, dissectors, diathermy forceps, stapling devices, harmonic scalpel, needle holder, camera, needle for suturing and for specimen retrieval [1–3]. Additional 5-mm ports are used based on surgeon/robot and assistant's needs in each patient. We have improvised on simple surgical steps of this operation to allow us to carry out a laparoscopic radical prostatectomy using a single 1-cm port and four 5-mm ports. All graspers, needle holders, endoclips, diathermy forceps and harmonic scalpel are introduced and operated through 5-mm ports. The larger 1-cm port is used for introducing laparoscope, needle with suture and specimen retrieval.

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SURGICAL STEPS

STEP 1

Creation of extraperitoneal space and placement of Hassan trocar (1-cm port) for optics.

STEP 2

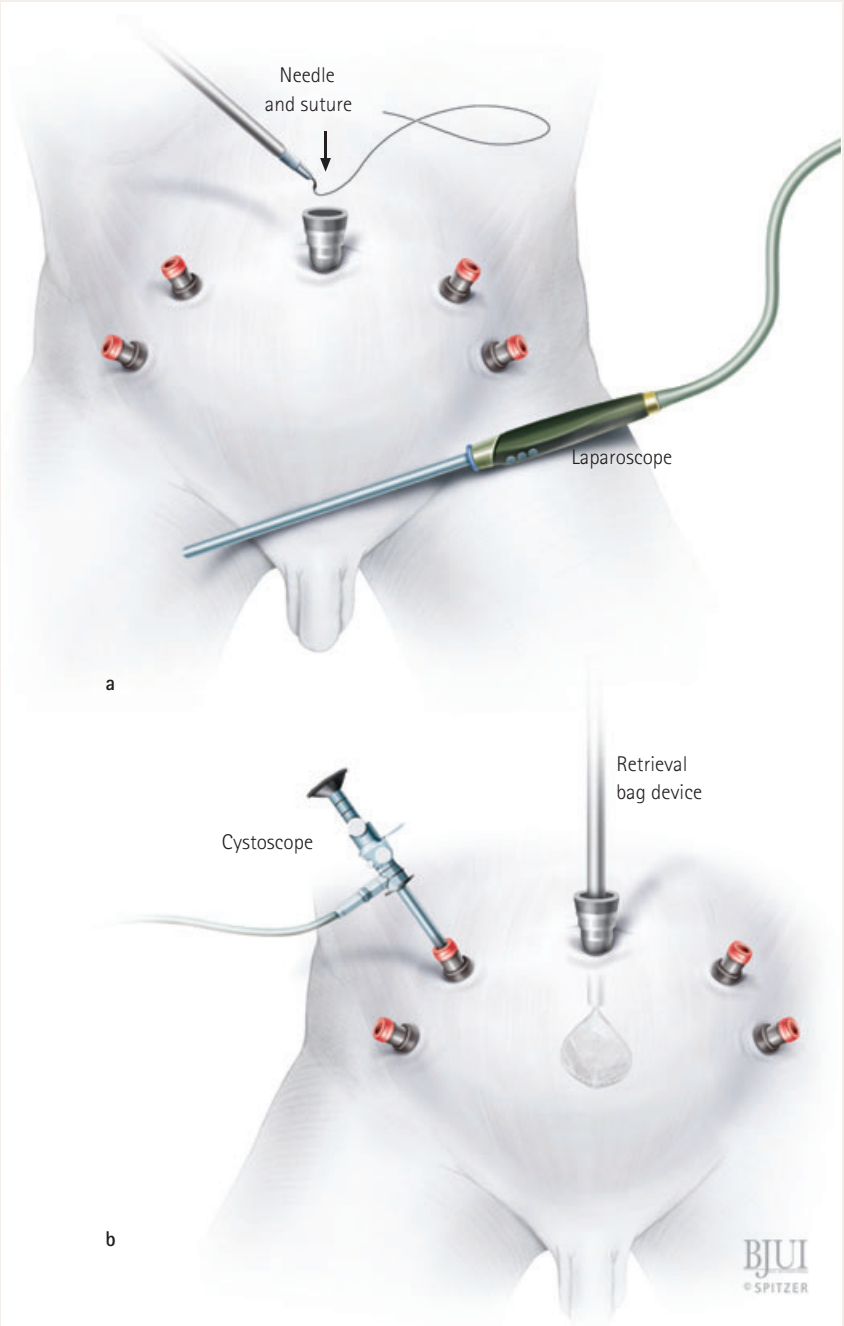
Placement of four additional 5-mm ports.

STEP 3

Dissection of dorsal venous complex and ligation of complex. The laparoscope is withdrawn and the needle and suture introduced through the Hassan trocar (Figure 1a).

STEP 4

Dissection of anterior and posterior bladder neck, vasa, seminal vesicles and apex of prostate. The specimen is entrapped in a polythene bag introduced through the Hassan trocar. A 30°lens cystoscope introduced through a 5-mm trocar is used to visually guide entrapment of the prostate (Figure 1b).



STEP 5

The Hassan trocar is repositioned after withdrawal of retrieval bag device. The bag with the specimen is now on one side of the Hassan trocar (Figure 2a).

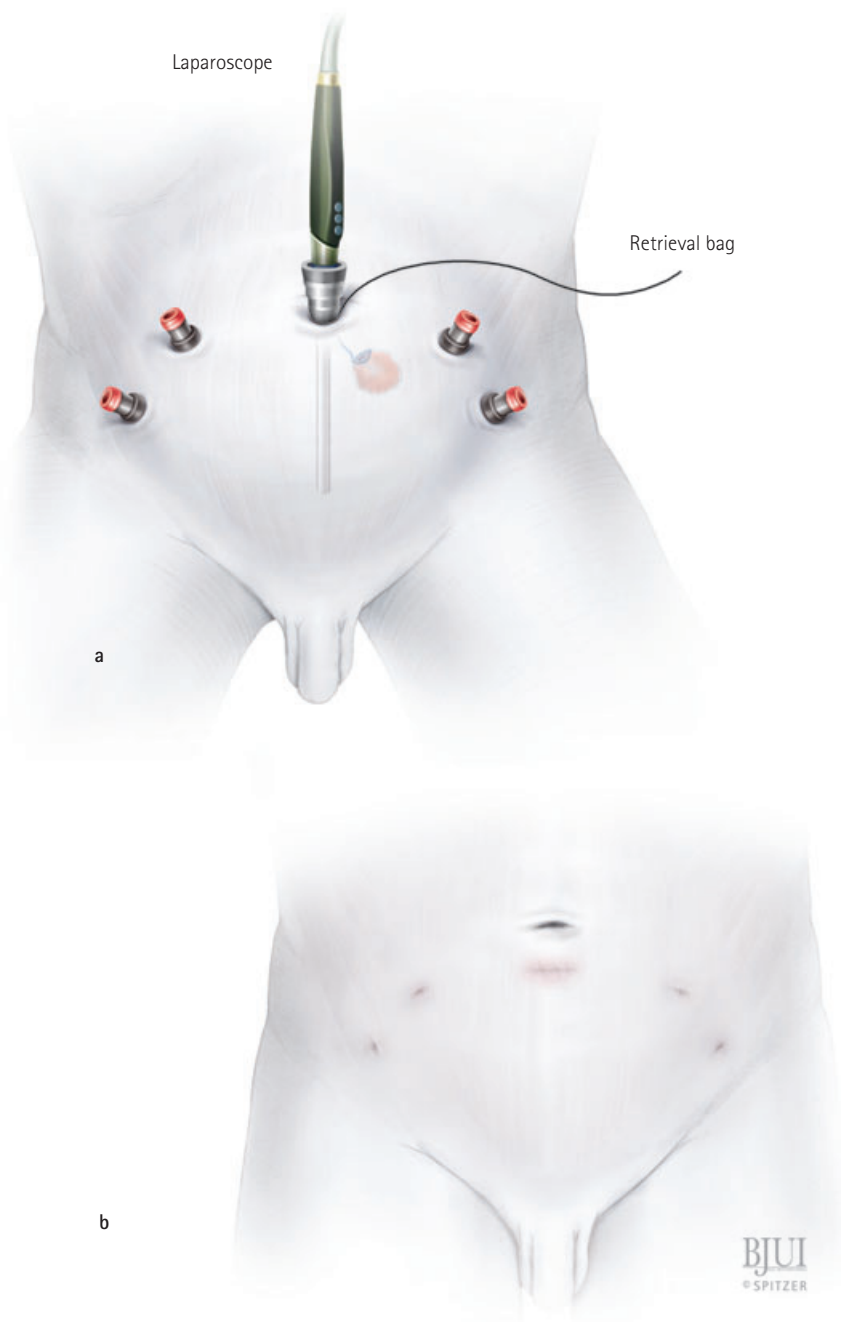
STEP 6

A needle and suture is introduced through the Hassan trocar to create a watertight vesicourethral anastomosis over an 18 F Foley catheter. A tube drain is placed through one of the 5-mm ports.

STEP 7

The periumbilical incision in the skin and linea alba is enlarged if necessary to allow delivery of a larger prostate.

Figure 2b shows a typical cosmetic outcome 2 weeks after surgery.



RESULTS

Changing from laparoscope to cystoscope for specimen entrapment takes an additional 5 min. However, having fewer 10-mm ports saves time on suturing during the closure of anterior abdominal wall and skin. In our view, the use of a single 1-cm port reduces the surgical trauma in laparoscopic radical prostatectomy. We have used this technique without any difficulty in 30 patients.

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