Needle-assisted laparo-endoscopic single-site surgery for radical prostatectomy (LESS-RP) using a new series of Steerable™ instruments

Feasible option to overcome current limits?

Poster number 223

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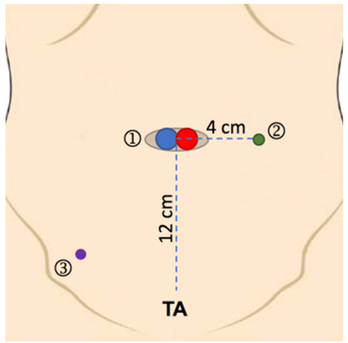
The development of purpose-built, articulating instruments and robotic platforms allows the surgeon to perform Radical Prostatectomy (RP) through a single or reduced number of laparoscopic ports.

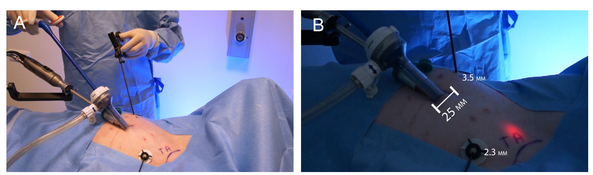
Such a procedure remains a technical challenge, while advantages and disadvantages remain unclear.

We wanted to demonstrate the feasibility of needle-assisted LESS-RP using a new Steerable™ laparoscopic instruments series.

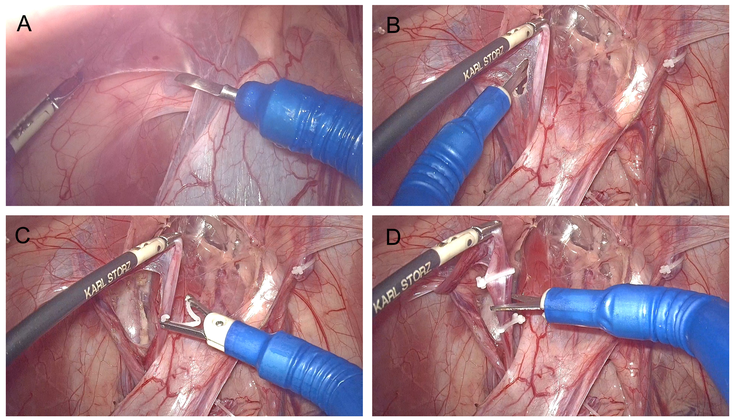
The Steerable™ instrument series showing an overview of the (C) Steerable™ Needle Driver, and a detailed view of the (A) Steerable™ Clip applier, (B) Steerable™ Cautery Spatula, (D) Steerable™ Needle Driver and (E) Steerable™ Scissors



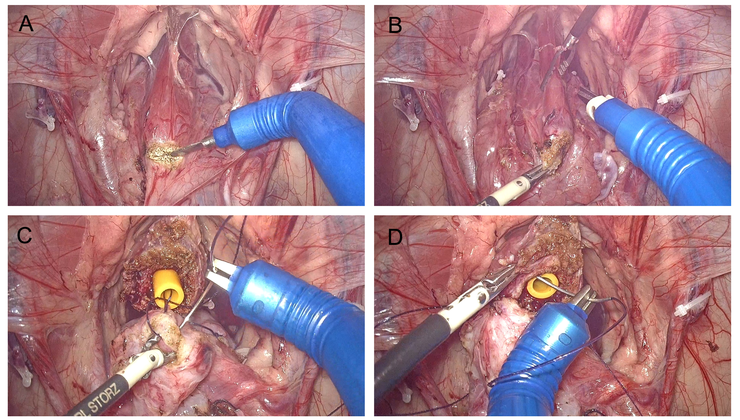
Detail of port placement
A 25-mm transverse incision is made 12 cm cranially of the target anatomy (TA), allowing the placement of a camera and Airseal® trocar (1). A 3.5 mm bipolar needlescopic grasper (2) is inserted, without need for a trocar. A 2.3 mm Minilap device is placed in the right iliac fossa (3).



Overview of the surgical setup and port placement (A) the single port approach combining a 30° full HD three-dimensional endoscope and a Steerable™ Needle Holder and (B) detail of the diameters of intraperitoneal access points.



Intraoperative pictures of the Scarless-RP procedure using the Steerable™ instruments series
(A) The Steerable™ Cautery Spatula was used for separation of the urachus. (B) A Steerable™ Scissors was used to open the peritoneum and dissect the vas deferens. (C) Ligation of the vas deferens using the Steerable™ Clip Applier. (D) The vas deferens was sectioned using a Steerable™ Scissors.



Intraoperative pictures showing (A) incision of the bladder neck, (B) retraction of the prostate using a 2.3 mm MiniLap system, (B, C) vesico-urethral anstomosis using V-Loc™ suture.

Steps	Step times (min)
Incision and port placement	18
Bladder mobilization	2
Vas deferens ligation and bladder neck dissection	32
Seminal vesicle and prostate dissection	29
VUA	38
Total operative time (min)	119

Operation and step-specific times

CONCLUSIONS

Steerable™ laparoscopic instruments satisfyingly permitted needle-assisted LESS-RP.

With only a minimum of hardware needed and some major benefits compared to conventional instruments, the Steerable™ series may considerably enhance surgical proficiency in scarless surgery.

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