

3-D Laparoscopic Radical Prostatectomy: Intra-operative treatment and management of an enlarged median lobe of the prostate

DISCUSSION

Enlarged median lobes of the prostate are encountered in approximately 10% of radical prostatectomies, accounting for approximately 8000 patients per year. *

Intra-operative management of a large median lobe requires an enhanced awareness of anatomic relationships in order to avoid ureteral injury during bladder neck transection and urethrovesical reconstruction. Concomitant enlargement of the lateral lobes is often also present and will further distort pelvic anatomy, potentially impacting critical areas of dissection that may result in neurovascular bundle injury and/or positive surgical margins.

CASE STUDY

A fifty-six year old white male presented with symptoms of an enlarged prostate and a PSA of 11.7ng/ml. Evaluation showed a 130 gram prostate and unilateral Gleason 7 prostate cancer. Patient's medical history included hypertension and elevated cholesterol.

Extraperitoneal laparoscopic radical prostatectomy with bilateral nerve sparing and bilateral pelvic lymph node dissection was planned. When dissecting the bladder neck, a large median lobe of the prostate that distorted the trigone and ureteral orifices was encountered, necessitating a much wider bladder neck resection. During the more extensive resection, the unusual relationships among the ureters, seminal vesicles and middle lobe of the prostate could be appreciated. | continued next page

SURGEON

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“3-D vision delivers important information which helps the surgeon better execute the laparoscopic skill sets of dissection, grasping, and suturing.”

Extraperitoneal laparoscopic radical prostatectomy with Viking 3Di Vision System

After completing this phase of the dissection, no additional technical alterations were required, and a successful nerve-sparing prostatectomy and urethrovesical anastomosis were accomplished.

This patient's post-operative course was without complications. The patient gained early continence and ultimately a restoration of sexual function 6 months postoperatively.

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CONCLUSIONS

This large median lobe skewed and distorted the normal anatomic relationships, during the bladder neck transection. Once this was safely performed, standard antegrade dissection of the prostatic pedicles and nerve-sparing was performed. Detailed 3D visualization, as provided by the Viking 3Di Vision System, contributed to precise identification of the edges of the prostate, thereby minimizing the likelihood of iatrogenic positive margins and maximizing nerve-sparing. Moreover, 3D visualization contributed to the successful bladder neck reconstruction necessary in this complex case.

3D vision enables the urologic surgeon to precisely appreciate the complex anatomical relationships among vital structures, such as the ureters, prostate, rectum, and neurovascular bundles and facilitates accurate dissection in all cases, but especially in those where normal anatomical relationships are skewed by unanticipated anatomical anomalies. Better visualization may help to reduce iatrogenic complications and may help to improve outcomes.

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