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The Present Condition of Robot-Assisted Radical Prostatectomy

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Abstract

Organ-confined adenocarcinoma of the prostate can only be treated with radical prostatectomy if it is to be free of disease for the rest of the patient's life. Understanding the remarkable anatomic variability of the prostate apex and the striated urethral sphincter's cylindrical shape is the only way to successfully perform the procedure. When surgical methods that preserve (i) neurovascular structures are used, they take into account variations at the apex. ii) the urethra with sphincter; and (iii) the adjacent levator ani, patients can anticipate a cure and the swift restoration of erectile function and urinary control.

Keys words: Prostate cancer • Radical prostatectomy • Laparoscopy

Introduction

Despite routine screening, the incidence of prostate cancer, the fifth most common cancer in Thai men, continues to rise. Sadly, RTR has a rate of prostate cancer that is comparable to that of the general population. In the treatment of cancer that is clinically localized, the standard of care is radical prostatectomy (RP). Revolutionary prostatectomy in RTR is viewed as muddled because of the presence of bonds or the area of relocated ureter/kidney. Alternate options include active surveillance, radiotherapy, or watchful waiting. However, post-radiation complications make radiotherapy less popular. A few case series or studies on radical prostatectomy in renal transplant recipients (RTR), particularly Asian patients, have been published to date. The objective of this case series was to evaluate the surgical and oncological outcomes of RP for localized prostate cancer in RTR.

Discussion

In spite of these encouraging outcomes and the inclusion of RARP in the NICE (National Institute of Clinical Excellence, UK) guidance on LRP in November 2006, RARP usage has been somewhat sluggish in the UK and Ireland. In these nations, the number of da Vinci systems has increased from two in 2003 to twelve in 2008. In addition, establishing a robotic program is a significant undertaking for many surgical units and necessitates extensive team expertise in RRP, ORP and LRP. We have observed a steady decline in our PSM rate over the past 500 RRPs; Due to a lack of experience, early intraprostatic margins, which are caused by accidental incisions into the prostate, are now uncommon. T3 disease is still present in some localized prostate cancer patients in the United Kingdom. The overall margin rate for palpable and nonpalpable cancers was 9 percent, with rates of 0 percent for pT2 and 21 percent for pT3 disease. Patients with palpable disease were given the best chance of negative margins by using frozen section biopsies and carefully staged magnetic resonance imaging (MRI) scans that were interpreted by an index radiologist.

Installation of the trocar and preparation of the preperitoneal space. The anterior rectus fascia is horizontally incised, the fibers of the rectus muscle are vertically separated and the posterior rectus fascia is revealed by making a 12-mm incision in the infraumbilical crease lateral to the midline. With the fingers pointed in the direction of the preperitoneal space, the area that lies between the rectus muscle and the posterior rectus fascia is bluntly dissected. A 12-mm balloon trocar with a 10-mm optical channel is inserted tangentially to the cutaneous plane in the direction of the pubis when the preperitoneal space beneath the arculate line of Douglas is reached. Under close supervision, the balloon is slowly inflated to ensure that the correct plane—between the rectus muscle and peritoneum—is reached. As a point of reference, the inferior epigastric vessels can be identified ventrally. The balloon is desufflated and taken out after the preperitoneal space has been created. A 10/12-mm Blunt Tip Hassan Trocar is inserted into the preperitoneal space and Vicryl stay sutures of size 2-0 are inserted into the anterior rectus fascia. Here are also the zero-degree optical system optics used in the procedure. To prevent subcutaneous emphysema, high-flow carbon dioxide insufflation is initiated and maintained at a pressure of 12 mmHg.

The anatomic nerve-sparing technique for retropubic radical prostatectomy (RRP) has been the gold standard and most commonly used treatment for patients with clinically localized prostate cancer since Walsh and Donker3 first introduced it. It provides excellent cancer control in the majority of patients with clinically localized disease. A minimally invasive surgical approach to managing prostate cancer was first described in 1992 by Schuessler and colleagues in an effort to further reduce the morbidity of RRP. However, the initial experience with laparoscopic radical prostatectomy (LRP) was discouraging and the authors came to the conclusion that the procedure was extremely challenging, had a steep learning curve and did not offer any advantages over RRP. Larger LRP series that demonstrated the procedure's viability and comparable outcomes to those of the open surgical approach were then published. Despite this, the majority of urologic surgeons have not yet adopted LRP on a widespread basis due to the lengthy learning curve and the technical requirements of the procedure [1-3].

The neck of the bladder is dissected. The urethra is developed through a sharp and blunt dissection after the rim between the mobile bladder neck and the solid prostate has been identified with the help of the catheter. From the 11:00 to 1:00 o'clock position at the bladder neck, a transversal incision is made. After that, an incision is made in the urethra and the deflated balloon catheter can be seen. The assistant then raises and secures the catheter before continuing the lateral dissection in the direction of the symphysis into the retropubic space. To locate the natural groove that runs dorsally between the prostate and the bladder mucosa, the assistant elevates the ventral portion of the prostate. Sharp dissection is then used to cut through the posterior bladder neck. Double-J catheters are not required, but they may be helpful in locating the ureteral orifices in a large prostatic middle lobe [4].

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From November 1994 to May 2009, the medical subject heading search terms "prostatectomy" and "Outcome Assessment (Health Care)" and the text words "retropubic," "robotic," and "laparoscopic" were used in a Medline database search. Additionally, references from pertinent review articles were used for additional hand searches. Only studies with a sample size of 250 or more patients and published in English were considered. The analysis also included studies with a total sample size of more than 250 patients but with fewer patients specifically evaluated for potency or continence rates. The data from each group were pooled based on the surgical approach and comparative studies were also included in the analysis. The review did not include any information from meeting reports or abstracts [5].

Conclusion

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Conflict of Interest

There are no conflicts of interest by author.

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