Laparoscopic retropubic prostatectomy: initial experience

Prostatectomia retropúbica videolaparoscópica: experiência inicial

Pedro Romanelli de Castro1, Ricardo Hissashi Nishimoto2, Raul Guilherme Ângelo Pinheiro1, Paulo Batista de Oliveira Arantes1, Aline Monteiro Neder Issa4, Hugo Monteiro Neder Issa1

DOI: 10.5935/2238-3182.20130029

ABSTRACT

Introduction: The surgical treatment of benign prostatic hyperplasia includes transurethral resection and suprapubic prostatectomy depending on prostate volume. The laparoscopic access creates a minimally invasive alternative to conventional suprapubic prostatectomy. Objective: to assess the feasibility of the open laparoscopic technique.

Patients and methods: Between June 2006 and October 2009, 15 patients underwent laparoscopic retropubic prostatectomy in the treatment of benign prostatic hyperplasia (BPH). Laparoscopic access was used as a minimally invasive alternative to open adenomectomy. Patient characteristics and prostate volume were assessed, as well as complications in the early and late perioperative and postoperative stages.

Results: Mean age was 68 years (62-75 years), mean prostate weight 123 grams (70-190 grams). Time of surgery ranged from 120 to 220 minutes. Mean estimated blood loss was 450 mL and transfusion was required for one patient. Mean hospital stay was three days. Time with indwelling catheter was six days and time of bladder irrigation was of one day for all patients. Anatomicopathological studies confirmed the diagnosis of BPH in all cases. Among postoperative complications, one patient had a superficial surgical wound infection, which responded well to antibiotic therapy.

Conclusions: Laparoscopic retropubic prostatectomy appears to be a safe procedure that reproduces the principles of open surgery. In this study we observed a low rate of complications, similar to previous studies.

Key words: Prostate Hyperplasia/Surgery; Laparoscopy; Prostatectomy, Transurethral Resection of Prostate.

RESUMO

Introdução: o tratamento cirúrgico da hiperplasia benigna da próstata inclui a reseccão transuretral e a prostatectomia suprapúbica, dependendo do volume prostático. O acesso videolaparoscópico criou alternativa minimamente invasiva à prostatectomia suprapúbica convencional. Objetivo: avaliar a viabilidade da técnica aberta por via laparoscópica.

Pacientes e métodos: entre junho de 2006 e outubro de 2009, 15 pacientes foram submetidos à prostatectomia retropúbica videolaparoscópica no tratamento da hiperplasia prostática benigna (HPB). O acesso videolaparoscópico foi utilizado como alternativa minimamente invasiva à adenomectomia aberta. Foram avaliadas as características dos pacientes, o volume prostático e as complicações no per e pós-operatório imediato e tardio. Resultados: a idade média foi de 68 anos (62-75 anos); o peso prostático médio foi de 123 gramas (70-190 gramas); o tempo cirúrgico variou de 120 minutos a 220 minutos. A perda de sangue estimada foi de 450 mL na média, sendo necessária transfusão em apenas um paciente. A permanência hospitalar média foi de três dias. O tempo com sondar vesical de demora foi de seis dias; e o tempo de irrigação vesical de um dia em todos os pacientes. O estudo anatomicopatológico confirmou o diagnóstico de HPB em todos os pacientes.
Laparoscopic retropubic prostatectomy: initial experience

PATIENTS AND METHODS

This observational retrospective study describes an experience with 15 patients submitted to laparoscopic retropubic prostatectomy at the Alberto Cavalcanti Hospital in Belo Horizonte, Minas Gerais, Brazil, from June 2006 to October 2009.

Epidemiological features of the patients and of the disease were analyzed, including age group, comorbidities, prostate volume, and immediate and late preoperative and postoperative complications.

Laparoscopic access was the alternative to open surgery in patients with prostates over 80 grams. The laparoscopic approach was also used in two patients who had prostates below 80 grams and coexisting bladder stones when endoscopic material was unavailable for a transurethral removal of the calculi. In one patient, both a right inguinal hernia and a concomitant bladder stone were found. The inguinal hernia was treated in the same surgery, also by the laparoscopic approach. A Permanent Vesical Catheter was used for two patients due to acute urinary retention. No patient had ever undergone laparotomy procedures. All patients were informed of the novelty of the procedure and duly authorized its performance.

The approach used was transperitoneal laparoscopy in 10 patients and extraperitoneal laparoscopy in five patients.

INTRODUCTION

Simple open prostatectomy for adenoma removal by the transvesical or transcapsular route has been used as an alternative to Transurethral Resection of the Prostate (TURP) in the treatment of benign prostatic hyperplasia (BPH) in selected patients whose with large-volume prostate or in patients with coexisting surgical diseases such as large bladder calculus, bladder diverticulum or inguinal hernia. It allows for optimal surgical outcomes with lower reintervention rates than TURP as result of the complete removal of the adenoma, which is possible in an open surgery. The choice of surgical treatment in symptomatic BPH cases depends mainly on prostate size as measured by ultrasonography.

First described in 1947 by Millin, simple retropubic prostatectomy allows a complete enucleation of the prostatic adenoma by a transverse incision of the prostate capsule on the anterior surface of the prostate gland. With the advent of transurethral resection, the treatment of prostate hyperplasia was made almost exclusively thought that route. All minimally invasive techniques recently introduced in the treatment of BPH, such as laser ablation, thermotherapy, needle ablation, electro vaporization and prostatectomy are used in cases of early BPH, in small prostates. Recently, the use of laser holmium has been proposed as an alternative for the treatment of prostates over 100 grams. However, very large prostates continue, in all major urology centers in the world, to be treated by open surgery since resection time is a limiting factor for TURP. In 2001, Mirandolino Mariano described the laparoscopic simple prostatectomy technique, which allowed for a less invasive treatment for prostates over 75 grams.

Despite the low morbidity and mortality in those surgeries, laparotomy causes pain and surgical wound complications in the postoperative phase. Laparoscopy has the advantages of an open surgery and offers the benefit of being a minimally invasive treatment.
The surgeon and assistant worked above the patient’s head, and the image was placed before them. After a 10-mm trocar puncture in the umbilical region, three other trocars were positioned under direct vision: a 5-mm trocar about 2 cm medial to the right anterior superior iliac spine, a 5-mm trocar on the left lateral border of the left rectus abdominis muscle and a 10-mm trocar on the lateral border of the right rectus abdominis muscle (Figure 2).

In the extraperitoneal technique, the Retzius preperitoneal space was accessed digitally. In the transperitoneal approach, dissection began with access to the Retzius preperitoneal space, after opening the anterior parietal peritoneum. Both prostate and gallbladder were identified and dissected. Two homeostatic stitches were made using Vycril® 2-0 on the prostate’s lateral pedicles, on the prostatovesical junction of each side. The opening of the prostate capsule and the bladder neck was made by longitudinal incision. Adenoma enucleation was performed with the aid of a laparoscopic forceps and the prostate cutting device idealized by Sotello (Figure 3).

After dissection, the adenoma was left in the retrocecal recess until the end of surgery, when it was bagged and removed after morcellation through the umbilical incision (Figure 4).

Trigonization of the bladder neck was performed by suturing the bladder neck mucosa to the prostatic capsule with a simple catgut 3-0 stitch. Suture was performed for the gallbladder and the prostatic capsule using Vicryl® 3-0 continuous suture on two planes (Figure 5).

RESULTS

Mean age was 68 (62-75) years of age, and mean prostatic weight was 123 grams (70-190 grams). Surgery time ranged from 120-220 minutes. Mean esti-
Complication rates in the immediate preoperative and postoperative periods of simple transperitoneal and extraperitoneal laparoscopic prostatectomy in this series were comparable to those found in the literature, which suggests that this technique is an option for the treatment of BPH for patients with large prostates.

REFERENCES