

Preoperative International Prostate Symptom Score Predictive of Inguinal Hernia in Patients Undergoing Robotic Prostatectomy

Ricardo F. Sánchez-Ortiz,* Carolina Andrade-Geigel, Héctor López-Huertas, Ronald Cadillo-Chávez and Omar Soto-Avilés

From the Robotic Urology and Oncology Institute and Division of Urology, Department of Surgery, University of Puerto Rico School of Medicine, San Juan, Puerto Rico

Abbreviations and Acronyms

BMI = body mass index

Accepted for publication November 19, 2015.
No direct or indirect commercial incentive associated with publishing this article.

The corresponding author certifies that, when applicable, a statement(s) has been included in the manuscript documenting institutional review board, ethics committee or ethical review board study approval; principles of Helsinki Declaration were followed in lieu of formal ethics committee approval; institutional animal care and use committee approval; all human subjects provided written informed consent with guarantees of confidentiality; IRB approved protocol number; animal approved project number.

* Correspondence: Division of Urology, University of Puerto Rico School of Medicine, Suite 306, 400 F.D. Roosevelt Avenue, San Juan, Puerto Rico 00918 (telephone: 787-756-5200; FAX: 787-756-5227; e-mail: drsanchezortiz@gmail.com).

Purpose: Studies have shown that encountering an inguinal hernia during robotic radical prostatectomy is not uncommon. We reviewed our experience with simultaneous robotic prostatectomy and mesh hernia repair to identify variables predictive of a hernia.

Materials and Methods: Our cohort consisted of 693 consecutive men who underwent robotic radical prostatectomy as performed by 1 surgeon. Hernias were repaired with mesh composed of equal parts of absorbable polyglycolic acid and nonabsorbable polypropylene monofilament. Preoperative variables potentially predictive of an inguinal hernia were evaluated.

Results: Inguinal hernias were encountered in 55 of 639 patients (8.6%), of which 22.3% were bilateral for a total of 68 hernia sides. Only 26 of 55 hernias (47.2%) were evident preoperatively. Men with a preoperative I-PSS (International Prostate Symptom Score) of 15 or greater had a 22.4% chance (30 of 134) of requiring a hernia repair compared with 5% in those without such a score (OR 5.54, 95% CI 3.13–9.81, $p < 0.0001$). There were no differences between the hernia and nonhernia groups in prostate size, body mass index, age, blood loss, transfusions, operative time, length of stay or any Clavien grade II-V complication. In 47 patients there was 1 recurrence at a median followup of 27.9 months. There were no cases of mesh associated pain or erosion.

Conclusions: Independent of prostate size, men with preoperative lower urinary tract dysfunction were at 5 times the risk of a hernia at robotic radical prostatectomy (22.4% vs 5%). Given that half of the hernias were subclinical, patients with an I-PSS of 15 or greater should be counseled about the potential need for hernia repair at robotic radical prostatectomy.

Key Words: prostate, hernia, prostatectomy, robotics, questionnaires

ABDOMINAL straining associated with voiding or bowel dysfunction has traditionally been associated with the development of abdominal wall hernias. As a result, the classic general surgery dictum recommends that any coexistent bladder outlet obstruction should be addressed by the urologist

before patients undergo surgical repair of a hernia.¹

Organ confined prostate cancer is usually not associated with the development of lower urinary tract symptoms. However, a modest proportion of patients treated for prostate cancer with radical prostatectomy may have

coexisting benign prostatic hyperplasia with elevated symptom scores and inguinal hernias may be detected incidentally at surgery. Schlegel and Walsh described the initial experience of concurrent inguinal hernia repair during retropubic prostatectomy or radical cystoprostatectomy without any recurrences or complications.^{2,3} Subsequently Nielsen and Walsh reviewed their experience with 430 men who underwent radical retropubic prostatectomy, identifying inguinal hernia defects in up to 33%, of which 40% were bilateral.⁴ In another large series of 1,000 patients treated with retropubic radical prostatectomy Lepor et al reported repairing preperitoneal inguinal hernias in 11.6% without complications.⁵

Not surprisingly since the popularization of the radical prostatectomy by Walsh and Donker,⁶ studies have shown that if not concurrently repaired, inguinal hernias may develop in 10% to 15% of patients after surgery, a significantly higher rate than the 5% incidence expected in the general population.^{7,8} In the largest population based study to date Nilsson et al reviewed the Swedish Prostate Cancer Database and the Swedish Hernia Register, and identified 28,608 men treated with radical prostatectomy and 105,422 controls.⁹ Patients treated with retropubic or minimally invasive radical prostatectomy were at fourfold increased risk for hernia repair compared with controls in the 12-year study period.

While surgical repair of small direct hernias may be performed by placing interrupted nonabsorbable sutures, management of indirect hernias or large direct defects usually requires placement of a prosthetic mesh. Despite theoretical concerns of mesh infection due to potential urine contamination, the use of absorbable and nonabsorbable mesh has been shown to be safe using a retropubic,^{5,10} laparoscopic¹¹ or robotic assisted^{12,13} approach. In the original description by Finley et al using the da Vinci® robot 49 mesh hernia repair procedures were performed in a total of 533 patients in a 5-year period with a low recurrence rate.¹² What was most interesting about their findings was that the physical examination was normal before prostatectomy in 50% of patients.

Given our parallel experience with a high proportion of incidental inguinal hernias encountered at robotic prostatectomy, we reviewed our experience in an attempt to identify whether any preoperative clinical variables were predictive of encountering an inguinal hernia at prostatectomy.

MATERIALS AND METHODS

An institutional review board approved prospective database was created to collect clinical data on all patients

treated with robotic prostatectomy at the Robotic Urology and Oncology Institute. Clinical variables relevant to the study included age, serum prostate specific antigen, followup, preoperative I-PSS, history of diabetes mellitus, history of smoking, history of hypertension, family history of prostate cancer, BMI, clinical stage, Clavien-Dindo grade II-V complications, prostate size, estimated blood loss, operative time and length of stay. Clinical variables pertaining to inguinal hernias included the presence or absence of a hernia during surgery, type (direct or indirect), location (unilateral or bilateral and right or left side) and whether the hernia was or was not recognized preoperatively.

All patients were examined for a possible hernia by the operating surgeon before surgery. Informed consent was obtained for a possible laparoscopic inguinal herniorrhaphy with prosthetic mesh preoperatively even if a hernia was not evident. All robotic prostatectomies were performed with the da Vinci S robot by a single surgeon (RFS-O) using a transperitoneal approach.

Hernia sacs were dissected free as cephalad as possible at bladder mobilization down from the anterior abdominal wall. The gonadal vessels and the vasa were skeletonized to enable mesh placement at the end of the case. On the back table a slit was cut in the mesh parallel to its short axis approximately 1 inch from the edge to create a thin flap. The flap would fit under the gonadal vessels and prevent compression, leaving most of the surface area of the mesh medial to cover the defect. For indirect hernias the mesh was placed more lateral to cover the defect completely. The mesh used was equal parts absorbable polyglecaprone-25 monofilament (Monocryl®) and nonabsorbable polypropylene monofilament (UltraPro®).

UltraPro mesh is different from heavyweight 100% polypropylene mesh because the polyglecaprone-25 component is completely absorbed, leaving 65% less foreign material. Rodent animal studies have shown that the polyglecaprone-25 mesh material is completely absorbed between 56 and 84 days after implantation and it is associated with lower rates of inflammation and fibrotic tissue reaction than pure polypropylene.¹⁴ Intraperitoneal use of UltraPro mesh for laparoscopic inguinal and ventral hernia repair has been widely described.

After the vesicourethral anastomosis was completed the mesh was tacked to the Cooper ligament and the anterior abdominal wall using a 0-degree lens with care taken to avoid injury to the epigastric vessels. Tacks were always placed above the imaginary line between the pubic symphysis and the anterior superior iliac spine to avoid nervous or vascular structures, the so-called triangle of pain. Titanium tacks were used for the initial 60 hernias but most recently Securestrap® absorbable tacks were used with similar results.

Any complications classified as grade II or greater in the Clavien-Dindo classification system¹⁵ were recorded in our database. Statistical analysis was performed using SPSS® with $p < 0.05$ considered statistically significant.

RESULTS

Inguinal hernias were encountered during robotic prostatectomy in 55 of 639 patients (8.6%). These

Download English Version:

<https://daneshyari.com/en/article/6158808>

Download Persian Version:

<https://daneshyari.com/article/6158808>

[Daneshyari.com](https://daneshyari.com)