SIMULTANEOUS IMPLANTATION OF MALE SLING AND INFLATABLE PENILE PROSTHESIS

Dr. Agustín Fraile.
HOW FREQUENT IS IT?

Platinum Priority – Prostate Cancer
Editorial by Karim A. Touijer on pp. 615–616 of this issue

Randomised Controlled Trial Comparing Laparoscopic and Robot-assisted Radical Prostatectomy

Francesco Porpiglia *, Ivano Morra, Marco Lucci Chiarissi, Matteo Manfredi, Fabrizio Mele, Susanna Grande, Francesca Ragni, Massimiliano Poggio, Cristian Fiori

Division of Urology, San Luigi Gonzaga Hospital—Orbassano (Turin), University of Turin, Turin, Italy

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Abstract

Background: The advantages of robot-assisted radical prostatectomy (RARP) over laparoscopic radical prostatectomy (LRP) have rarely been investigated in randomised controlled trials.

Objective: To compare RARP and LRP in terms of the functional, perioperative, and oncologic outcomes. The main end point of the study was changes in continence 3 mo after surgery.

Design, setting, and participants: From January 2010 to January 2011, 120 patients with organ-confined prostate cancer were enrolled and randomly assigned (using a randomisation plan) to one of two groups based on surgical approach: the RARP group and the LRP group.

Interventions: All RARP and LRP interventions were performed with the same technique.
How frequent is it?

Rate of continence recovery at different time points. The differences were statistically significant at each time point. RARP = robot-assisted radical prostatectomy; LRP = laparoscopic radical prostatectomy.

Rate of potent recovery of the self-reported capability of sexual intercourse in the nerve-sparing cohort. The differences were significant at each time point. RARP = robot-assisted radical prostatectomy; LRP = laparoscopic radical prostatectomy.
HOW FREQUENT IS IT?

Platinum Priority – Prostate Cancer
Editorial by Thomas E. Ahlering on pp. 226–227 of this issue

Urinary Incontinence and Erectile Dysfunction After Robotic Versus Open Radical Prostatectomy: A Prospective, Controlled, Nonrandomised Trial

Eva Haglind a,*, Stefan Carlsson b, Johan Stranne c, Anna Wallerstedt b, Ulrica Wilderång d, Thordis Thorsteinsdottir d,e, Mikael Lagerkvist f, Jan-Erik Damber c, Anders Bjartell g, Jonas Hugosson c, Peter Wiklund b, Gunnar Steineck d,h, on behalf of the LAPPRO steering committee i

a Department of Surgery, Institute of Clinical Sciences, Sahlgrenska Academy at the University of Gothenburg and Sahlgrenska University Hospital, Gothenburg, Sweden; b Department of Molecular Medicine and Surgery, Section of Urology, Karolinska Institutet, Stockholm, Sweden; c Department of Urology, Institute of Clinical Sciences, Sahlgrenska Academy at the University of Gothenburg, Sahlgrenska University Hospital, Gothenburg, Sweden; d Division of Clinical Cancer Epidemiology, Department of Oncology, Institute of Clinical Sciences, Sahlgrenska Academy at the University of Gothenburg, Gothenburg, Sweden; e Faculty of Nursing, School of Health Sciences, University of Iceland, Reykjavik, Iceland; f UroClinic, Stockholm, Sweden; g Department of Urology, Skåne University Hospital, Lund University, Malmö, Sweden; h Department of Oncology and Pathology, Division of Clinical Cancer Epidemiology, Karolinska Institutet, Stockholm, Sweden

Abstract

Background: Robot-assisted laparoscopic radical prostatectomy (RALP) has become widely used without high-grade evidence of superiority regarding long-term clinical outcomes compared with open retropubic radical prostatectomy (RRP), the gold standard. Objective: To compare patient-reported urinary incontinence and erectile dysfunction 12 mo after RALP or RRP. Design, setting, and participants: This was a prospective, controlled, nonrandomised trial of patients undergoing prostatectomy in 14 centres using RALP or RRP. Clinical record forms and validated patient questionnaires at baseline and 12 mo after surgery were collected. Outcome measurements and statistical analyses: Odds ratios (ORs) were calculated with logistic regression and adjusted for possible confounders. The primary end point was urinary incontinence (change of pad less than once in 24 h vs one time or more per 24 h) at 12 mo. Secondary end points were erectile dysfunction at 12 mo and positive surgical margins. Results and limitations: Of 2625 eligible men, 2431 (93%) could be evaluated for the primary end point. At 12 mo after RALP, 366 men (21.3%) were incontinent, as were 144 (20.2%) after RRP. The adjusted OR was 1.08 (95% confidence interval [CI], 0.87–1.34). Erectile dysfunction was observed in 1200 men (70.4%) 12 mo after RALP and 531 (74.7%) after RRP. The adjusted OR was 0.81 (95% CI, 0.66–0.98). The frequency of positive surgical margins did not differ significantly between groups: 21.8% in the RALP group and 20.9% in the RRP group (adjusted OR: 1.09; 95% CI, 0.87–1.35). The nonrandomised design is a limitation.

Keywords:
Erectile dysfunction
Open radical prostatectomy
Prostate cancer
Robot-assisted laparoscopic radical prostatectomy
Urinary incontinence

Article info

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PATIENT SELECTION

- Clinical history (etiology, duration, previous treatments)
- Physical examination
- Questionnaires (ICIQ-SF, SHIM)
- Pad-test (mild, moderate, severe)
- Urethrocystoscopy (Test of Gozzi)
- Urodynamics
URETHROCYSTOSCOPY
AUS vs male sling
AUS vs male sling

- No prospective comparative studies
- Severity of incontinence (nº of pads, 3d pad test, residual function sphincter)
- Radiotherapy
- Long term experience
- Complications (infection rate, erosion, revision surgery)
Reconstructive Urology

Patient Satisfaction After Dual Implantation of Inflatable Penile and Artificial Urinary Sphincter Prostheses

John G. Mancini, William S. Kizer, LeRoy A. Jones, Rafael V. Mora, and Allen F. Morey

OBJECTIVES
Since description of the transverse scrotal approach for artificial urinary sphincter (AUS) placement, simultaneous implantation of an inflatable penile prosthesis (IPP) and AUS through a single incision has been shown to constitute safe, efficient, and cost-effective treatment for men plagued by both erectile dysfunction and urinary incontinence. We present patient satisfaction outcomes after simultaneous dual implantation (DI) of an IPP and AUS.

METHODS
We compared outcomes of postprostatectomy patients who underwent DI to those receiving IPP or AUS alone from 2001 to 2006. Telephone interviews using a standard questionnaire were conducted to evaluate prosthetic functionality, ease of use, and patient satisfaction.

RESULTS
A total of 95 men were evaluated (31 for IPP alone, 31 for AUS alone, and 33 for DI). Daily pad usage decreased from 4.6 to 0.8 pads per day with AUS alone and 6.1 to 1.3 pads per day with DI. Patients were similarly satisfied with IPP rigidity during inflation and flaccidity during inactivation in both IPP and DI groups (4.1 to 4.4 for rigidity and 3.9 for flaccidity [1 = “unhappy” and 5 = “happy”]). Ease of scrotal pump operation was similar in all groups, as was overall prosthetic satisfaction. Most patients stated that they would recommend the DI procedure to a friend or relative (87% to 94%) or have the procedure done again (77% to 94%).

CONCLUSIONS
Dual implantation produces encouraging outcomes in patient satisfaction, ease of use and functionality that are similar to those found after placement of either IPP or AUS alone. UROLOGY 71: 893–896, 2008. © 2008 Elsevier Inc.
### Table 1. Inflatable penile prosthesis (IPP) function

<table>
<thead>
<tr>
<th>Question and Description</th>
<th>DI</th>
<th>IPP Alone</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean ease of IPP operation (1 = “difficult”, 5 = “easy”)</td>
<td>4.2</td>
<td>4.2</td>
<td>0.761</td>
</tr>
<tr>
<td>Rigid enough for intercourse (n)</td>
<td>97.0% (32)</td>
<td>87.1% (27)</td>
<td>0.190</td>
</tr>
<tr>
<td>Mean rigidity score (1 = “not happy”, 5 = “happy”)</td>
<td>4.4</td>
<td>4.1</td>
<td>0.383</td>
</tr>
<tr>
<td>Mean flaccidity score when deflated (1 = “poor”, 5 = “excellent”)</td>
<td>3.9</td>
<td>3.9</td>
<td>0.877</td>
</tr>
<tr>
<td>Patients reporting autoinflation (n)</td>
<td>33.3% (11)</td>
<td>48.4% (15)</td>
<td>0.220</td>
</tr>
<tr>
<td>Revised (n)</td>
<td>9.1% (3)</td>
<td>3.3% (1)</td>
<td>0.614</td>
</tr>
<tr>
<td>Removed (n)</td>
<td>0% (0)</td>
<td>3.3% (1)</td>
<td>0.484</td>
</tr>
<tr>
<td>Mean pain score (1 = “no pain”, 5 = “severe pain”)</td>
<td>1.4</td>
<td>1.6</td>
<td>0.733</td>
</tr>
<tr>
<td>Mean overall satisfaction (1 = “unhappy”, 5 = “happy”)</td>
<td>4.2</td>
<td>4.0</td>
<td>0.456</td>
</tr>
<tr>
<td>Would recommend to friend or relative (n)</td>
<td>94.0% (31)</td>
<td>87.1% (27)</td>
<td>0.419</td>
</tr>
<tr>
<td>Would do again (n)</td>
<td>94.0% (31)</td>
<td>77.4% (24)</td>
<td>0.078</td>
</tr>
</tbody>
</table>

DI = dual implantation.

### Table 2. Artificial urinary sphincter (AUS) function

<table>
<thead>
<tr>
<th>Question and Description</th>
<th>DI</th>
<th>AUS Alone</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean preoperative pads/day</td>
<td>6.1</td>
<td>4.6</td>
<td>0.052</td>
</tr>
<tr>
<td>Mean postoperative pads/day</td>
<td>1.3</td>
<td>0.8</td>
<td>0.191</td>
</tr>
<tr>
<td>Reduction in pads/day</td>
<td>76%</td>
<td>77%</td>
<td>0.921</td>
</tr>
<tr>
<td>Socially continent (&lt;1 pad/day)</td>
<td>72.7%</td>
<td>87.1%</td>
<td>0.153</td>
</tr>
<tr>
<td>Improvement in continence</td>
<td>93.9%</td>
<td>93.5%</td>
<td>1.000</td>
</tr>
<tr>
<td>Mean ease of AUS operation (1 = “difficult”, 5 = “easy”)</td>
<td>4.6</td>
<td>4.4</td>
<td>0.159</td>
</tr>
<tr>
<td>Revised (n)</td>
<td>18.2% (6)</td>
<td>12.9% (4)</td>
<td>0.734</td>
</tr>
<tr>
<td>Removed (n)</td>
<td>3.2% (1)</td>
<td>3.2% (1)</td>
<td>1.000</td>
</tr>
<tr>
<td>Mean pain score (1 = “no pain”, 5 = “severe pain”)</td>
<td>1.4</td>
<td>1.3</td>
<td>0.315</td>
</tr>
<tr>
<td>Mean overall satisfaction (1 = “unhappy”, 5 = “happy”)</td>
<td>4.4</td>
<td>4.4</td>
<td>0.391</td>
</tr>
<tr>
<td>Would recommend to friend or relative (n)</td>
<td>94.0% (31)</td>
<td>94.0% (29)</td>
<td>1.000</td>
</tr>
<tr>
<td>Would do again (n)</td>
<td>94.0% (31)</td>
<td>94.0% (29)</td>
<td>1.000</td>
</tr>
</tbody>
</table>


IPP3+AUS RESULTS

Combined Inflatable Penile Prosthesis-Artificial Urinary Sphincter Implantation: No Increased Risk of Adverse Events Compared to Single or Staged Device Implantation

Robert L. Segal,*,† Mercelo R. Cabrini, Elaine D. Harris, Jacek L. Mostwin Trinity J. Bivalacqua and Arthur L. Burnett†

From The James Buchanan Brady Urological Institute, The Johns Hopkins Medical Institutions, Baltimore, Maryland

Purpose: Little data exist on the outcome of combined inflatable penile prosthesis and artificial urinary sphincter insertion for erectile dysfunction and stress urinary incontinence. We assessed patient outcomes for combined vs single device implantation at a single institution.

Materials and Methods: We retrospectively reviewed the records of all patients who underwent inflatable penile prosthesis and artificial urinary sphincter insertion at our hospital from January 2000 to December 2011. A total of 55 combined procedures were performed compared to the single insertion of 336 inflatable penile prostheses and 279 artificial urinary sphincters.

Results: The surgical approach consisted of penoscrotal incisions for inflatable penile prostheses and transperineal incisions for artificial urinary sphincter cuff placement with a secondary lower abdominal incision for reservoir placement. Men treated with combined implantation had greater mean age and were at greater risk for prostate cancer diagnosis and treatment, and at lesser risk for Peyronie disease than men who received an inflatable penile prosthesis alone (each p <0.05). Although operative time was significantly longer for the combined procedure than for the inflatable penile prosthesis alone and the AUS alone (mean 218.1 vs 145.9 and 114.7 minutes, respectively, p <0.0001), the rate of device infection, erosion or malfunction was not increased irrespective of combined or staged procedures (p >0.05).

Conclusions: Combined inflatable penile prosthesis-artificial urinary sphincter implantation and staged prosthesis implantation are feasible without an increased risk of adverse outcomes compared to implantation of a single prosthesis. Patients with concomitant erectile dysfunction and stress urinary incontinence should be counseled about the possible advantages of this surgical option, which include a single anesthesia event and faster resumption of sexual activity and urinary control.
IPP-3+AUS RESULTS

2186  COMBINED INFLATABLE PENILE PROSTHESIS-ARTIFICIAL URINARY SPHINCTER IMPLANTATION

Table 2. Surgical outcomes of combined vs staged vs single prosthesis implantation

<table>
<thead>
<tr>
<th></th>
<th>No. Staged (%)</th>
<th>No. Combined (%)</th>
<th>No. Single (%)</th>
<th>( p ) Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IPP Then AUS</td>
<td>AUS Then IPP</td>
<td>Totals</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>10</td>
<td>12</td>
<td>22</td>
<td>55</td>
</tr>
<tr>
<td>IPP:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erosion</td>
<td>1 (10)</td>
<td>1 (8.8)</td>
<td>2 (9.1)</td>
<td>2 (3.6)</td>
</tr>
<tr>
<td>Infection</td>
<td>1 (10)</td>
<td>0</td>
<td>1 (4.5)</td>
<td>0</td>
</tr>
<tr>
<td>Mechanical</td>
<td>0</td>
<td>2 (16.7)</td>
<td>2 (9.1)</td>
<td>3 (5.5)</td>
</tr>
<tr>
<td>failure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUS:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erosion</td>
<td>0</td>
<td>1 (8.8)</td>
<td>1 (4.5)</td>
<td>2 (5.5)</td>
</tr>
<tr>
<td>Infection</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2 (3.6)</td>
</tr>
<tr>
<td>Mechanical</td>
<td>1 (10)</td>
<td>1 (8.8)</td>
<td>2 (9.1)</td>
<td>3 (16.4)</td>
</tr>
<tr>
<td>failure</td>
<td></td>
<td></td>
<td></td>
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IPP-3+SLING SURGICAL TECHNIQUE
RESULTADOS

IPP3+SLING

1265
SIMULTANEOUS PLACEMENT OF AN INFLATABLE PENILE PROSTHESIS AND ADVANCE MALE SLING FOR ERECTILE DYSFUNCTION AND INCONTINENCE: ROBUST EFFICACY AND SAFETY DATA AT 2 YEAR FOLLOW-UP
Brian Christine*, Birmingham, AL; Steven K Wilson, Indio, CA; Rany Shamliol, Anthony J Bella, Ottawa, Canada

INTRODUCTION AND OBJECTIVES: Combined placement of a 3-piece inflatable penile prosthesis (IPP) and Advance Male Sling (MS) (American Medical Systems, MN) is an important new treatment option for men with treatment-resistant erectile dysfunction (ED) and mild-to-moderate incontinence, especially following treatments for prostate cancer. Medium to long-term experience of a simultaneous approach is previously unreported.

METHODS: Prospective data on a total of 22 pts underwent the simultaneous placement of the Advance male sling and a 3-piece IPP was collected. The sling and IPP were placed using separate incisions (perineal and transverse scrotal incisions, respectively). The patients were followed in the clinic for post-operative care at 1, 2 and 6 weeks post-surgery (daily inflation of the IPP at 2 weeks), and returned to full, unrestricted activities including intercourse at 6 weeks. Ongoing treatment efficacy is assessed q6 months; interval questionnaire data was supplemented by phone interviews.

RESULTS: Pt follow-up is 22 months (mdn). Operating time was 92 minutes (range 49-102). IIEF-5 increased by 18.6 +/- 0.9. At this time, 18/22 pts are using their IPP for intercourse; 16/18 (89%) pts describe themselves as â€œsatisfiedâ€ or â€œvery satisfiedâ€ with the penile implant (68% satisfied, 22% very satisfied). and 2/18 (11%) describe themselves as â€œunsatisfiedâ€. Both of the unsatisfied pts feel so because of perceived loss of length of the erect penis. Preoperative pad use ranged from 1-5 pads/day. 2/22 pts (10%) reported persistent incontinence requiring daily pad use; these were men with 3-5 ppd leakage prior to surgery and were counseled regarding potential limitations of the sling approach in this group. Of the other 20 pts, 19 (86%) report complete continence no longer using any pads, and 1 (4%) reports the â€œoccasionalâ€ use of a pad (0-1 pad/week). 4/22 pts (18%) experienced urinary retention post-operatively lasting from 3-10 days, which resolved without secondary surgical intervention. No infections or revision surgery were reported.

CONCLUSIONS: The simultaneous placement of a 3-piece inflatable penile prosthesis and the Advance male sling is a safe, effective treatment combination for men suffering from post-prostatectomy urinary incontinence and erectile dysfunction. As well, simultaneous placement confers a potential health-system economic benefit without compromise of patient outcomes, as Gorbatyi et al have reported an estimated cost savings of $9000 using the dual-procedure approach.

1809
SIMULTANEOUS ADVANCE MALE SLING AND AN INFLATABLE PENILE PROSTHESIS: CONCURRENT PLACEMENT DOES NOT INCREASE POTENTIAL FOR IMPLANT INFECTION
Brian Christine*, Birmingham, AL; L. Dean Knoll, Nashville, TN

INTRODUCTION AND OBJECTIVES: The simultaneous placement of the Advance* male sling and an inflatable penile prosthesis (IPP) has been shown to be an efficacious combination to address post-prostatectomy stress urinary incontinence (SUI) and erectile dysfunction (ED) under a single anesthetic. Infection of a penile prosthesis is perhaps the most feared complication of implant surgery. Current literature suggests an infection rate of 1–2% when antibiotic coated IPP’s are placed in men without risk factors such as diabetes or chronic steroid use.

We present a large series of men who underwent the simultaneous placement of the Advance sling and an IPP and report on rate of post-surgical infection.

*American Medical Systems, Inc

METHODS: From July, 2007 through July, 2010 seventy-eight (78) men underwent combined Advance sling and an IPP. Placement of the Advance sling was through a perineal incision in all patients. Thirty-eight (38) patients had the IPP placed through a transverse scrotal incision, and forty (40) patients had the IPP placed via an infrapubic incision. Follow-up ranged from 4 to 40 months (mean 16 months). Patients were followed up in the clinic at regular intervals after surgery.

RESULTS: One (1) patient developed an infection of the IPP in the post-operative period (1.2%). This patient was treated with immediate salvage of the implant, leaving the sling in-place. He recovered uneventfully and at 12 months post-salvage is completely continent and using his IPP with high satisfaction. No other infections occurred.

CONCLUSIONS: The simultaneous placement of an Advance male sling and an IPP does not increase the potential for infection of the IPP beyond the expected infection rate when an IPP is placed alone.
CONCLUSIONS

- IPP3+sling is technically feasible, and can be a good option in patients with simultaneous ED and mild-moderate SUI

- IPP3+sling less complications

- IPP3+sling no long term experience

- Adjust indication for each patient