

Comparative study with the conventional technique in the Early Recovery of Urinary Continence after Laparoscopic Radical Prostatectomy



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Introduction

Urinary incontinence after radical surgery for prostate cancer (PC) significantly impairs the quality of life of patients, therefore search for refinements in the surgical technique to accelerate the recovery of urinary continence (UC) is maintained. One of these maneuvers is the Anterior Retropubic Suspension (ARS) in an attempt to stabilize the pubo-urethral ring to improve UC recovery. We developed a technical variant of the ARS using barbed suture (BS). Our objectives are to describe our surgical technique of ARS with BS and to evaluate its efficacy in the recovery of UC by means of a prospective comparative study with the conventional procedure during Laparoscopic Radical Prostatectomy (LRP).

Methods

A total of 60 consecutive patients with localized PC undergoing PRL were selected. Patients with one year of follow-up after surgery or who had achieved UC were included. We excluded patients who presented postoperative Urethro-vesical Anastomosis (UVA) stenosis, urinary retention after removal of the catheter, or any complication that could affect the recovery of continence. Demographic (table 1), perioperative (table 2) and follow-up variables were recorded (age, PSA, stage, Gleason score-ISUP, intraoperative bloodloss, hospital stay, catheterization time and functional results). An extraperitoneal approach with 5 trocars was performed in the majority of cases and transperitoneal access was reserved for patients undergoing extended pelvic lymphadenectomy based on the Briganti scale and the Partin tables. Intrafascial neurovascular preservation technique was performed in preoperative potent patients with oncological safety criteria for preservation based on the previous scales. In all cases, the preservation of the bladder neck, preservation of the pubo-prostatic ligaments (PPL), ligation of the Dorsal Venous Complex (DVC)¹, optimization of the urethral length, posterior reconstruction of Rocco² with BS and UVA with the same suture was performed.

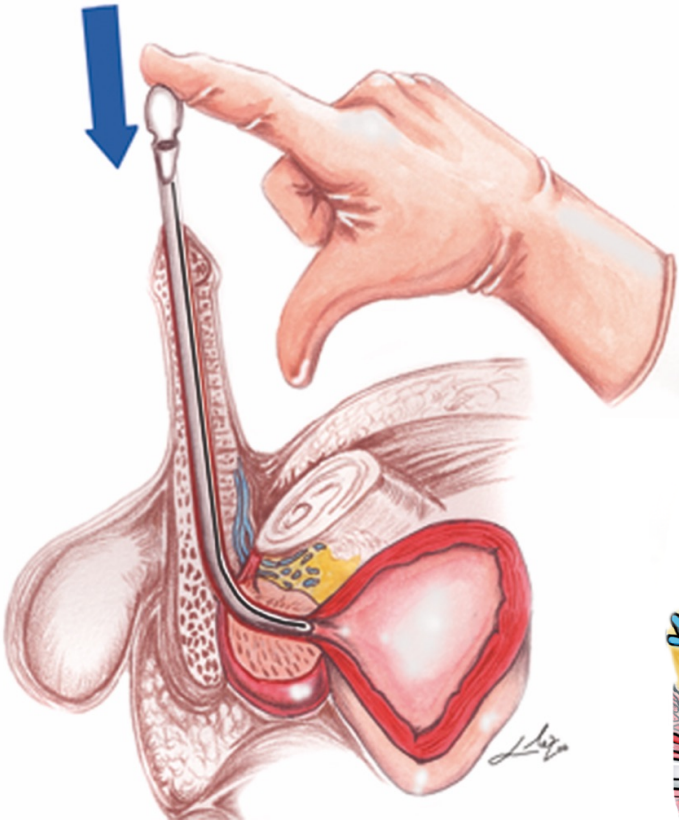


Fig. 1. Narrow of DVC assisted by Beniqué.

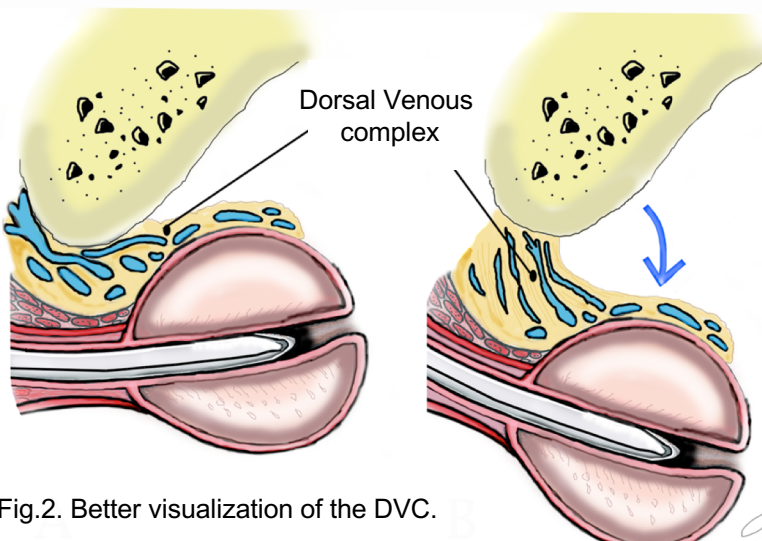


Fig. 2. Better visualization of the DVC.

Two non-randomized groups were established: In 26 patients, ARS was not performed (Group 1) and 34 patients underwent ARS (Group 2). Our technique ARS contemplates ligation DVC encompassing the PPL passing three loops of BS while subsequent traction of the urethra is carried out using an intraurethral metal plug (Beniqué)³ (fig. 1,2,3) and subsequently the same thread is fixed to the periosteum of retro-pubic bone with two loops (fig 4,5, video). Post-operative UC was evaluated in the following stages: one week after removal of the urethral catheter (immediate continence), at 3, 6 and 12 months after surgery. The UC was defined as the use of 0 or up to 1 "safety-pad". The information was recorded in a database by a researcher other than the surgeon using the SPSS v.20 program. The statistical analysis included Chi-square and Student's T.

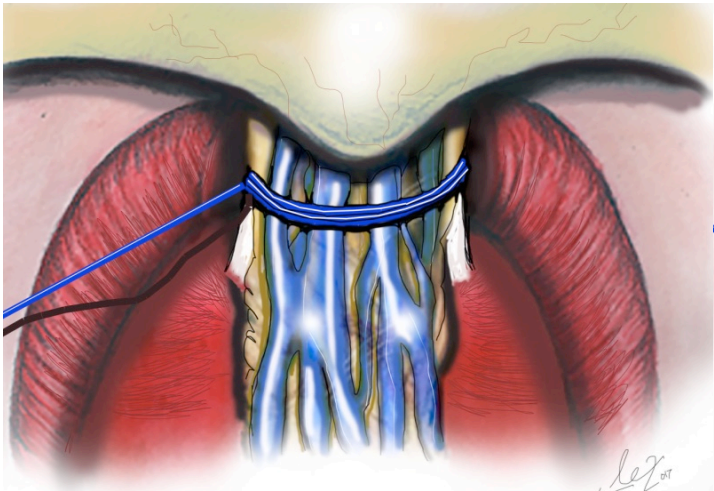


Fig. 3. Ligation of the DVC.

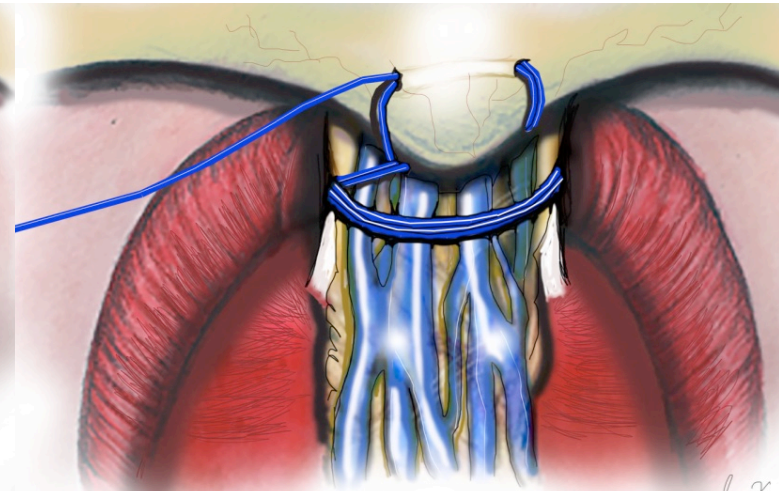
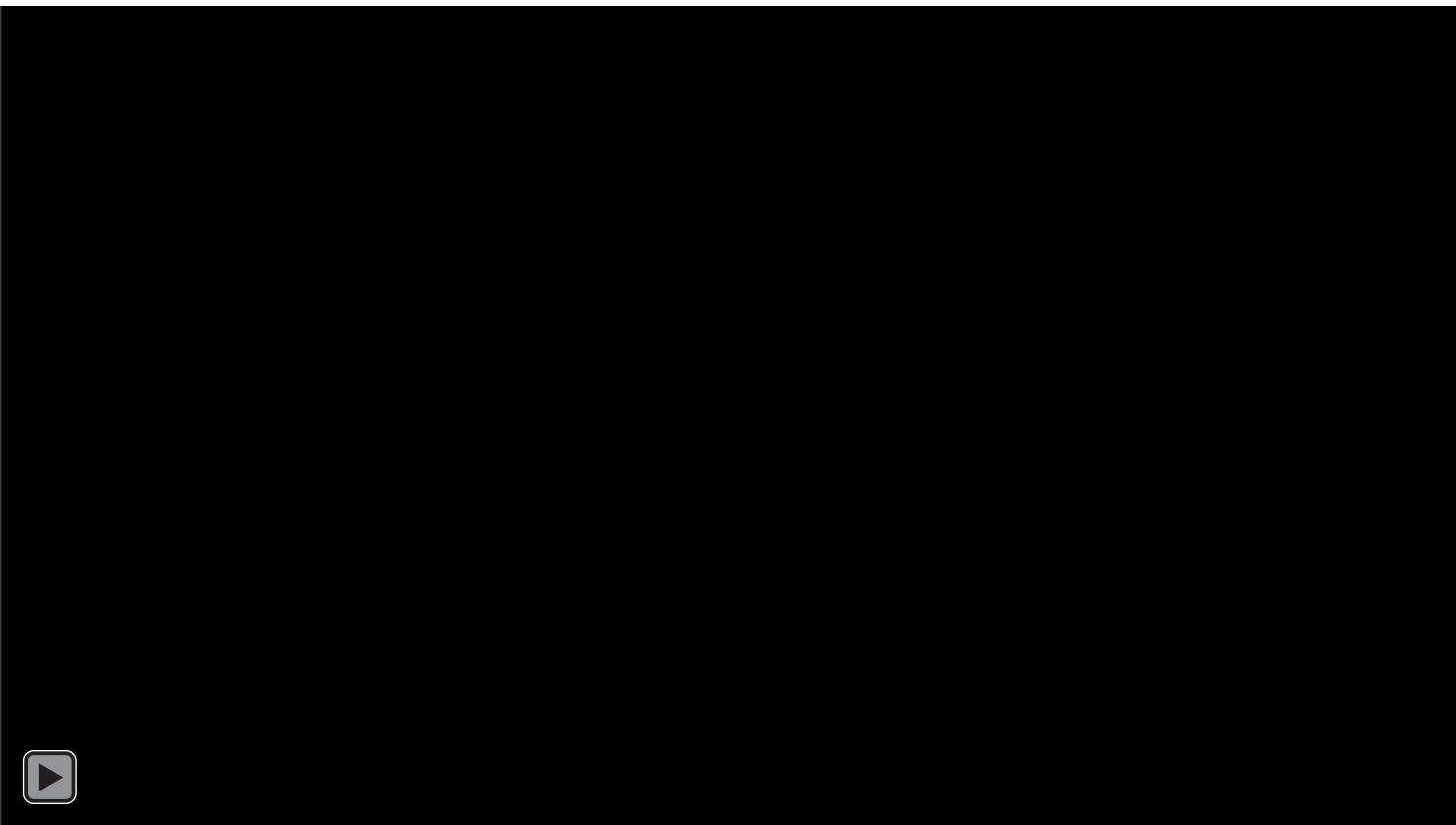


Fig. 4. ARS stitch at pubis bone.



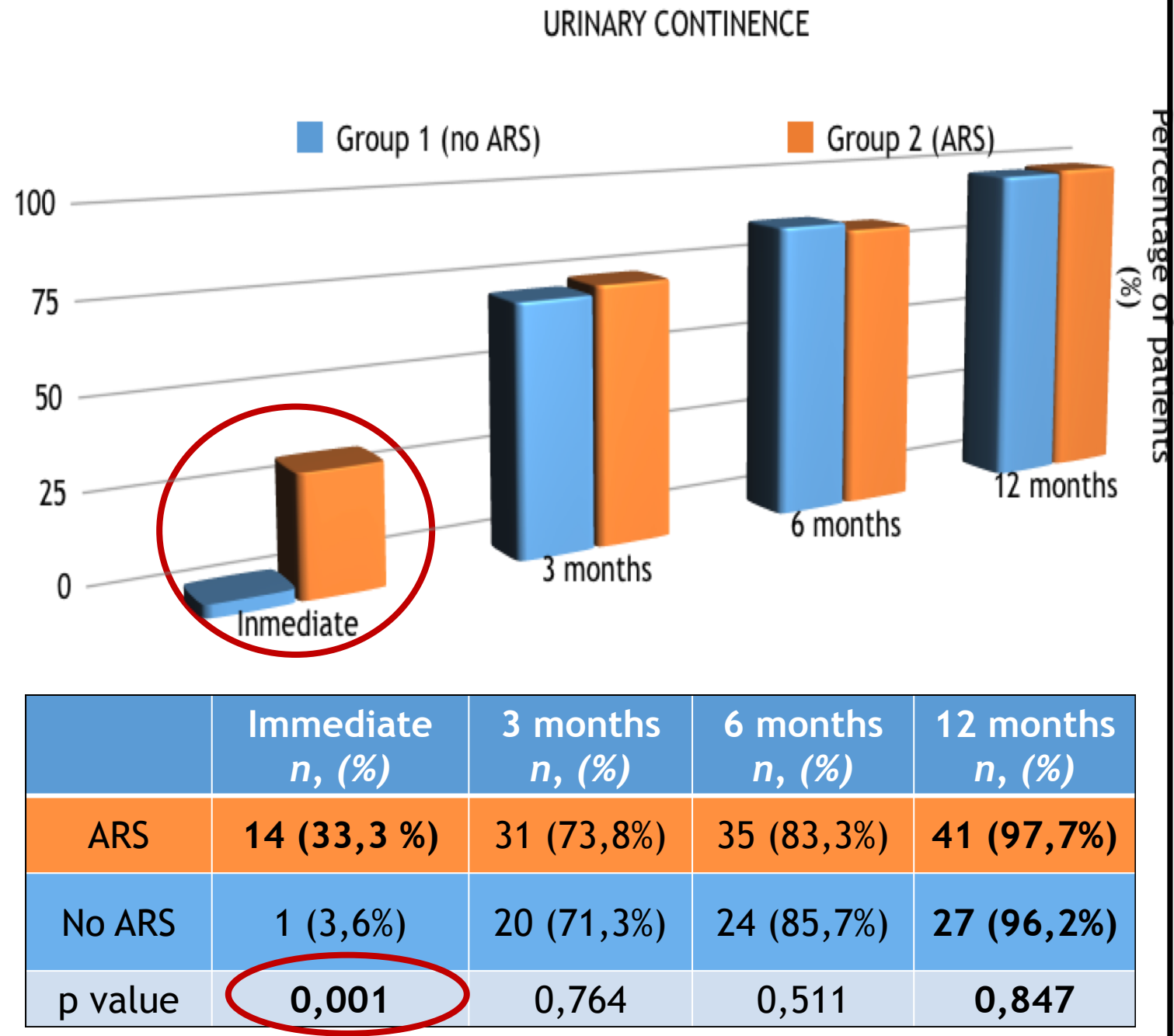
Results

The groups were comparable in terms of age, PSA, Gleason score-ISUP, stage and perioperative parameters. There were no complications related to the ARS technique.

TABLE 1. DEMOGRAPHIC DATA			
	GROUP 2 (ARS)	GROUP 1 (no ARS)	P= <0.05
N	42	28	
AGE	65.90 (48-76; 6.53)	64.89 (47-77; 6.946)	p= 0.54
GLEASON			p= 0.39
6 (3+3)	18	14	
7 (3+4, 4+3)	20	9	
8 (4+4),(3+5)	2	1	
9 (4+5,5+4)	1	2	
10(5+5)	1	2	p= 0.59
PSA	9.67 (4-24.70; 4.21)	9.16 (2.90-17; 3.66)	
STAGE			
T1C	17	14	
T2A	11	6	
T2B	7	5	p= 0.82
T2C	7	3	

TABLE 2. PERI-OPERATIVE DATA			
	GROUP 2 (ARS)	GROUP 1 (no ARS)	P=<0.05
SURGICAL TIME (MINUTES)	228 (160-375; 47)	217 (100-300; 51)	p= 0.37
HOSPITAL STAY (DAYS)	5.98 (3-22; 4.5)	5.57 (3-23; 3.9)	p= 0.1
CATHETERIZATION TIME (DAYS)	11.64 (3-21; 4.36)	11.19 (8-20; 2.86)	p= 0.569
INTRAOPERATIVE BLOOD-LOSS	3.12 (0.60-6.10; 1.25)	3.18 (0.70-5.70; 1.3)	p= 0.441

Group 2 presented better results of immediate UC compared to group 1 with statistical significance (41.2% vs 3.8%, p = 0.001). There were no differences between the groups in the UC (73.3% vs. 76.9%, p = 0.764; 82.4% vs. 88.5%, p = 0.511; and 97.1% vs. 96.2%, p = 0.847) at 3, 6 and 12 months respectively. The analysis of the oncological and potency results was not performed because are not the objectives of this study.



Conclusions

The ARS technique using SB may improve the recovery of immediate UC after LRP. It requires more studies and with more cases to consolidate our conclusion.

References

1. Patel VR, et al. Periurethral suspension stitch during robot-assisted laparoscopic radical prostatectomy: description of the technique and continence outcomes. Eur Urol 2009;56:472–8.

2. Rocco B, et al. Posterior reconstruction of the rhabdosphincter allows a rapid recovery of continence after transperitoneal videolaparoscopic radical prostatectomy. Eur Urol 2007;51:996–1003

3. García-Seguí A., et al. Narrowing of the drosal Vein Complex Technique during Laparoscopic Radical Prostatectomy: A simple trick to Simplify the Control of Venous Plexus. Urol J. 2014 Nov 1;11(5):1873-7