Original Article

The impact of transition from conventional robot-assisted radical prostatectomy to retzius sparing robot-assisted radical prostatectomy: A retrospective multivariate analysis

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ABSTRACT

Introduction: To assess the outcomes of Retzius sparing robotic-assisted radical prostatectomy (RS-RARP) in comparison with the conventional RARP.

Materials and Methods: A retrospective analysis of 320 cases of RARP, performed from 2014 April to 2019 April, was performed. The predictor variables included age, body mass index, clinical stage, prostate-specific antigen, Gleason score category in biopsy, D'Amico risk category, presence of the median lobe, prior transurethral resection of the prostate, and the ability to perform the RS-RARP. The outcome variables included console time, blood loss, blood transfusion, nerve sparing, bladder neck sparing, positive surgical margins (PSM), number and the site of PSMs, extracapsular invasion, seminal vesicle involvement, complications, continence, erectile function, biochemical recurrence, and adjuvant treatment. Regression analysis was performed using the linear regression for the continuous variables and binary logistic regression for the categorical variables with two levels.

Results: Three hundred and twenty patients underwent radical prostatectomy from 2014 April to 2019 April. We started the RS-RARP program in December 2016. Twenty-three patients who did not meet the inclusion criteria were excluded and a total of 297 patients were studied. Multivariate analysis demonstrated that RS-RARP was a strong positive independent predictor for continence recovery at 3 months, 6 months, and 12 months. RS-RARP was an independent predictor of reduced console time and increased probability of bladder neck sparing. RS-RARP was also independently associated with increased PSM in the posterolateral, anterolateral, and the apical regions.

Conclusion: RS-RARP has better continence rates up to 12 months compared with the conventional approach, but is associated with increased PSM at certain locations.

INTRODUCTION

Oncological outcomes, urinary continence, and erectile dysfunction comprise the trifecta in radical prostatectomy.[1] In order to improve the continence, efforts have been directed towards the maximal preservation of the periprostatic anatomy. Galfano *et al.* described a novel technique of robot-assisted radical prostatectomy by evading the dissection in the space of Retzius to preserve the anterior continence mechanism.[2] This approach, named as the Bocciardi approach or the Retzius sparing robotic radical prostatectomy (RS-RARP), commences by dissecting the Douglas space completely intrafascially without the dissection of the anterior compartment, which contains the neurovascular bundles, Aphrodite's veil, endopelvic fascia, the Santorini plexus, and the pubourethral ligaments.[3] These structures are considered

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vital in maintaining the continence and potency.[3] The approach has been found to improve the continence in the immediate postoperative period, thus improving the quality of life of the patient compared to the conventional robotic assisted radical prostatectomy (conventional RARP [C-RARP]).[2] Even though the outcomes have been reported in a few studies published from high volume centers, the reproducibility of these outcomes in a low/medium volume setting is of paramount importance and has not been validated. In our center, we perform around 60–70 robotic assisted prostatectomies every year, which would classify us into a medium volume centre according to Xia *et al.*[4] The feasibility of this approach in patients with high-risk prostate cancers has not yet been addressed in the majority of the previous studies. Our study is unique as it is conducted in a medium volume center and includes a significant proportion of patients with high-risk prostate cancer.

MATERIALS AND METHODS

Retrospective analysis of 320 cases of RARP, operated from 2014 April to 2019 April, was performed. Patients with organ confined prostate cancer, who were candidates for robotic assisted prostatectomy, were included in the study. A written informed consent was obtained before the procedure and adhered to the ethical guidelines of declaration of Helsinki and its amendments. The study was approved by the scientific committee of our institution (No: 45/June 9, 2018) for access to the electronic medical records. Patients with bladder neck invasion on the magnetic resonance imaging (MRI), patients in whom a RS-RARP was converted to C-RARP, and who had bladder neck invasion detected while performing the C-RARP were excluded from the study. Surgery was performed by a single surgeon who is fellowship trained and has performed over 500 C-RARP's and 100 RS-RARP's. Approval from the institutional approval board was obtained for the retrospective analysis of the data.

Surgical technique

The surgery was accomplished using a Da Vinci Si surgical system (Intuitive Surgicals, Sunnyvale, CA, USA). For RS-RARP, we followed the steps described by Galfano *et al.*[2] C-RARP was performed by the posterior approach, dissecting the seminal vesicles first in the pouch of Douglas. Selective suturing of the dorsal vein complex, posterior reconstruction using a Rocco Stich, and puboprostatic suspension were performed followed by the vesicourethral anastomosis. Patients underwent pelvic lymph node dissection according to the risk stratification of the cancer. The patients were discharged on the third postoperative day and catheter was retained for 7–10 days depending upon discretion of the operating surgeon.

Statistical analysis

For the multivariate analysis, predictive variables and outcome variables were identified. The predictor variables included age, body mass index, clinical stage, prostate-specific antigen (PSA), Gleason score category in biopsy, D'Amico risk category, presence of a median lobe, prior transurethral resection of the prostate, and the approach of RARP [Table 1]. The outcome variables included console time, blood loss, nerve sparing, bladder neck sparing, PSM, number and site of PSM, extracapsular invasion, seminal vesicle involvement, complications according to the Clavien–Dindo classification,[5] continence at 3, 6 and 12 months, erection in the nerve sparing cases, biochemical recurrence and the requirement of adjuvant hormone, and adjuvant radiation therapy. Bladder neck sparing and nerve sparing were determined by the visual impression of the surgeon [Figure 1].

Ability to go around the prostatic urethra preserving the urethral musculature was deemed as bladder neck sparing. While the presence of a robust neurovascular bundle at the end of prostatectomy would qualify as a nerve sparing procedure. Patients were reviewed every 3 months after surgery with physical examination,

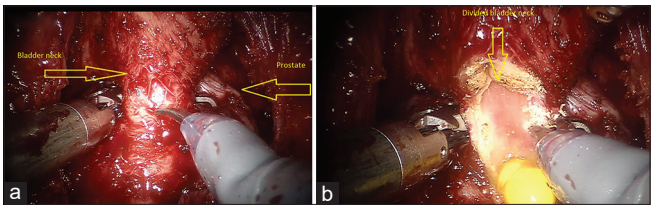

Figure 1: (a) Depicts the technique of bladder neck sparing with an intact urethra (b) Demonstrates the opened bladder neck

Table 1A: Summary of predictor variables

All parameters	Mean±SD/frequency (%)
RS-RARP	
Done	100 (33.6)
Not done	197 (66.4)
BMI (kg/m^2)	25.50±3.54
Age (years)	64.99±6.34|
Clinical stage	
1a	2 (0.6)
1b	6 (2.0)
1c	100 (33.6)
2a	113 (38.3)
2b	12 (4.0)
2c	64 (21.5)
PSA	20.70±21.98
Gleason category	2.61±1.35
High	149 (50.1)
Intermediate	106 (35.6)
Low	42 (14.3)
Previous TURP	
Done	10 (3.3)
Not done	287 (96.6)
Median lobe	
None	250 (84.4)
Yes	47 (15.6)
Volume of prostate	45.40±20.02

SD: Standard deviation, RS-RARP: Retzius sparing robotic-assisted radical prostatectomy, PSM: Positive surgical margins, BMI: Body mass index, TURP: Transurethral resection of the prostate

serum PSA, and assessment of their continence with the validated International Consultation on Incontinence Questionnaire–Urinary Incontinence Short Form.[6] Continence was defined as Zero pads per day. Erectile function was assessed using the IIEF questionnaire.[7] Successful erection was defined as the ability to perform sexual intercourse with or without pharmacological augmentation.

Data were coded and recorded in the MS Excel spreadsheet program and can be made available. R v4.0.0 (R Corp, Vienna, 2020 (R Core Team (2020). (R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria.)) was used for the data analysis. Group comparisons for the continuously distributed data were made using the independent sample *t*-test when comparing the two groups. If the data were found to be nonnormally distributed, appropriate nonparametric tests in the form of Wilcoxon test were used. The Chi-square test was used for group comparisons for the categorical data. In case the expected frequency in the contingency tables was found to be <5 for >25% of the cells, Fisher's exact test was used instead. Linear correlation between the two continuous variables was explored using the Pearson's correlation (if the data were normally distributed) and the Spearman's correlation (for nonnormally distributed data). Regression analysis was performed using the linear regression for the continuous variables, and the binary logistic regression for the categorical variables with two levels. Skewed variables were log-transformed before the analysis. Both the univariate and the multivariate analyses were performed to find the significant predictors for the respective variables. Statistical significance was kept at $P < 0.05$.

RESULTS

Three hundred and twenty patients underwent radical prostatectomy from 2014 April to 2019 April. We started the RS-RARP program in December 2016. Twenty-three patients who did not meet the inclusion criteria were excluded from the analysis, and a total of 297 patients were assessed. To begin with, 105 patients were planned for RS-RARP, five patients were converted to C-RARP due to bladder neck invasion and inability to progress and were excluded. Eighteen patients who underwent elective C-RARP because of the bladder neck invasion either detected preoperatively on the MRI or during the surgery were also excluded. A total of 297 patients were included in the analysis. In the predictor variables, the mean PSA was 20.7 ± 20.91 ng/ml. The high and the intermediate risk groups comprised 85.8% of our study population [Table 1A and B].

The mean console time for C-RARP and RS-RARP was 140 ± 37.1 and 121 ± 29 min, respectively. On the multivariate analysis, the RS-RARP was found to be a strong independent predictor of operative time ($P = 0.005$) [Table 2]. RS-RARP was also associated with a significantly increased probability of bladder neck sparing ($P = 0.006$) [Table 2]. There was no significant difference in the surgical complication rate between the two groups [Table 3].

Table 1B: Comparison of baseline predictor variables between conventional robotic-assisted radical prostatectomy and retzius sparing robotic-assisted radical prostatectomy

	RS-RARP	C-RARP	*P*
Age	64.64±6.42	65.17±6.36	0.50
BMI	25.07±3.43	25.70±3.65	0.421
PSA	17.34±15.48	22.4±24.76	0.065
Volume	44.81±15.47	45.71±21.97	0.81
Clinical Stage I	39 (39)	73 (37)	0.80
Clinical Stage 2	61 (61)	124 (63)	
High	47 (43)	102 (51.8)	0.46
Intermediate	40 (44)	66 (33.5)	0.44
Low	13 (13)	29 (14.7)	0.72
Gleason category	2.57±1.31	2.63±1.36	0.76
Previous TURP	3 (3)	7 (3.5)	1.0
Median lobe	17 (17)	30 (15.2)	0.73

C-RARP: Conventional robotic assisted radical prostatectomy, RS-RARP: Retzius sparing robotic assisted radical prostatectomy, BMI: Body mass index, TURP: Transurethral resection of the prostate

The PSM rate after RS-RARP and C-RARP was 29.9% and 33.0%, respectively. RS-RARP was independently associated with increased PSM at the posterolateral, anterior, and the apical aspects of the prostate [Table 2]. There was no difference in the PSM at the base of the prostate between the two groups ($P = 0.119$). The overall PSM rates and the number of PSM's were also similar in both the groups. There was an increased incidence of margin positivity in patients with pT3 stage compared to those with pT2 stage [Table 4A]. Patients with pT3 disease were equally distributed between the RS-RARP and C-RARP groups [Table 4B]. Moreover, the margin positivity rate in patients with pT3 disease was also similar in the RS-RARP and C–RARP groups [Table 4C].

The continence rate after C-RARP at 3, 6, and 12 months was 51.5%, 73.1%, and 87.0%, respectively, while that after RS-RARP was 82.8%, 92.7%, and 97.3%, respectively. RS-RARP was a strong independent positive predictor for continence recovery at 3 months ($P \leq 0.001$), 6 months ($P \leq 0.001$), and 12 months post surgery ($P = 0.049$) [Table 2]. The magnitude of the difference in the continence rate reduced over time and was least at 12 months.

The biochemical recurrence rate after C-RARP and RS-RARP was 31% and 21% at the end of 1 year, respectively. Subsequent to C-RARP, 29.9% of the patients were administered salvage hormone therapy and 18.8% received external-beam radiation within the first 12 months. In the RS-RARP group, 26% and 11% of the patients

Table 2: Comparative univariate and multivariate analysis for outcome variables

	C-RARP (*n*=197)	RS_RARP (*n*=100)	OR (95% CI, *P*)	
			Univariate analysis	Multivariate analysis
Console time (min)	140±37.1	121±29.1	−19.2 (−27.85, −10.74, <0.001)	−12.74 (−21.64, −3.83, 0.005)
Blood loss (ml)	189±99.9	185.8±82.	−3.29 (−26.08, 19.51, 0.777)	10.41 (−13.74-34.56, 0.397)
Nerve sparing	50/197 (24.3)	39/100 (39)	1.70 (1.02, −2.81, 0.041)	1.54 (0.79, −3.01, 0.204)
Bilateral nerve sparing	23 (46.0)	26 (66.7)	2.35 (1.00, −5.71, 0.054)	2.74 (0.77-10.56, 0.126)
Unilateral nerve sparing	27 (54.0)	13 (33.3)		
Bladder neck sparing	92 (46.7)	71 (71.0)	2.79 (1.68-4.73, <0.001)	2.31 (1.29-4.24, 0.006)*
PSM	59 (29.9)	33 (33)	1.64 (1.01-2.68, 0.045)	1.55 (0.90-2.69, 0.119)
Number of PSM	1.3±0.7	1.3±0.6	1.15 (0.68-1.92, 0.591)	1.24 (0.68-2.25, 0.485)
Posterolateral PSM	21 (10.1)	18 (18)	1.84 (0.92-3.64, 0.080)	2.49 (1.09-5.76, 0.031)*
Anterolateral PSM	12 (6.1)	11 (11.0)	1.91 (0.80-4.51, 0.140)	3.29 (1.18-9.42, 0.023)*
Base PSM	14 (7.1)	7 (7)	0.98 (0.36-2.45, 0.973)	1.16 (0.35-3.64, 0.797)
Apex	25 (12.7)	21 (21)	1.83 (0.96-3.46, 0.064	2.30 (1.10-4.88, 0.027)*
Complication Grade 1-11 ±	22 (11.2)	7 (7)	0.60 (0.23-1.39, 0.257)	0.66 (0.24-1.65, 0.394)
Complications Grade 111-IV±	5 (2.5)	4 (4)	1.60 (0.39-6.18, 0.491)	1.85 (0.36-9.01, 0.443)
Catheter duration (days)	7.7±0.7	7.9±1.8	0.16 (−0.27-0.59, 0.460)	0.30 (−0.16-0.76, 0.195)
Continence at 3 month	101/196 (51.5)	82/99 (82.8)	4.54 (2.56-8.43, <0.001)	4.31 (2.33-8.33, <0.001)*
Continence at 6 months	139/190 (73.1)	90/97 (92.7)	4.72 (2.18-11.81, <0.001)	4.96 (2.14-13.08, <0.001)*
Continence at 12 months	164/187 (87.7)	95/97 (97.3)	4.44 (1.50-19.07, 0.017)	3.77 (1.14-17.34, 0.049)*,±
Erection at 12 months	31/50 (62)	23/39 (58.9)	1.05 (0.43-2.54, 0.917)	1.26 (0.41-3.86, 0.687)
Biochemical recurrence at 12 months	61 (31.0)	21 (21)	0.59 (0.33-1.03, 0.071)	0.68 (0.34-1.31, 0.252)
Salvage hormone therapy at 12 months	59 (29.9)	26 (26.0)	0.82 (0.47-1.40, 0.477)	0.82 (0.42-1.56, 0.540)
Adjuvant/salvage radiation at 12 months	37 (18.8)	11 (11.05)	0.53 (0.25-1.07, 0.089)	0.51 (0.21-1.16, 0.119)

*Significant parameters. ±Clavien-Dindo classifications. C-RARP: Conventional robotic-assisted radical prostatectomy, RS-RARP: Retzius sparing robotic assisted radical prostatectomy, OR: Odds ratio, CI: Confidence interval, PSM: Positive surgical margins

Table 3: Comparison of complications between conventional robotic-assisted radical prostatectomy and retzius sparing robotic-assisted radical prostatectomy

Complications	C-RARP (*n*=197)	RS-RARP (*n*=100)
Urinary tract infection	9 (4.5)	3 (3)
Thrombophlebitis	3 (1.5)	1 (1)
Retention	1 (0.5)	1 (1)
Hemorrhage	2 (1.01)	1 (1)
Prolonged ileus	3 (1.5)	1 (1)
Wound collection	2 (1.01)	0
Chylous ascites	1 (0.5)	0
B/l ureteric injury	0	1 (1)
Anastomotic leakage	0	1 (1)
Pelvic collection	0	1 (1)
Urethral stricture	1 (0.5)	0
Bladder neck stenosis	2 (1.01)	1 (1)
Incisional hernia	2 (1.01)	0
Vesical stone	1 (0.5)	0

C-RARP: Conventional robotic-assisted radical prostatectomy, RS-RARP: Retzius sparing robotic-assisted radical prostatectomy

received salvage hormone and radiation therapy during the same time period.

DISCUSSION

Postoperative urinary incontinence is one of the most significant factors affecting the quality of life after C-RARP.[1] Numerous technical modifications have been introduced in the past decade to improve the postoperative incontinence rates.[8] These include bladder neck preservation, bladder neck reconstruction, urethral length preservation, periurethral suspension stitch, complete (anterior and posterior) reconstruction, preservation of the endopelvic fascia, selective suturing of the dorsal venous complex, and the nerve sparing approach.[9,10] It is found that the pubovesical complex, detrusor apron, levator ani, arcus tendinous, and anterior fixation of the bladder to the abdominal wall serve as the important mechanisms which suspend the bladder neck, preventing urethral hypermobility and maintaining the angulation of the vesico-prostatic junction.[11] This helps to compress the bladder neck during an increase in the intraabdominal pressure. Thus, preservation of the anterior compartment in RS-RARP helps to promote continence.[12] Few high volume centers across the world have published their results on RS-RARP in the last decade. In a study by Galfano *et al.* involving 200 patients, post RS-RARP continence rate is around 92%, 83% and 95% at 1 week, 1 month, and 3 months, respectively.[12] In another study, Dalela *et al.* (*n* = 120,60 vs. 60, only low-intermediate risk) have reported a continence rate of 71% at 1 week post RS-RARP.[13] Abu-Ghanem *et al.* reported a 1 month and 6 month continence rate of 18% and 86% with the RS-RARP approach versus 8% and 67% after the C-RARP.[14] Sayyid *et al.* reported a continence rate of 20%, 59%, 80%, 89%, and 97.5% at 1 month, 3 months, 6 months, 9 months, and 1 year post RS-RARP.[15] The corresponding continence rates for C-RARP were 8%, 29%, 50.3%, 63.3%, and 68.5%, respectively.[15] Lim *et al.* have reported a continence rate of 70% at 1 month and 100% at 1 year after RS-RARP. Another randomized study by Asimakopoulos *et al.* showed earlier recovery of continence with RS-RARP.[16] In our series, it was observed that the RS-RARP was an independent predictive factor for continence at 3, 6, and 12 months. The magnitude of difference declined over time and was least at 12 months. The randomized studies from the large

Table 4: Analysis of pT3 disease, surgical technique, and its impact on margin positivity

A: Pathological stage wise distribution			
Pathological stage	**Number of patients**	**Patients with positive surgical margin (%)**	***P***
pT3	188	81 (43%)	*P*=0.0001
pT2	109	11 (10%)	
B: Pathological outcome in RS-RARP and C-RARP			
Number of patients	**pT3**	**pT2**	***P***
Total number 297	188 (63.3%)	109 (36.7%)	0.528
RS-RARP 100	66 (66%)	34 (34%)	
C-RARP 192	122 (61.9%)	(38.1%)	
C: Surgical technique and margin positivity correlation in pT3 disease			
Surgical technique	**Total number (pT3)**	**Margin positive (pT3)**	***P***
RS-RARP	66/100 (66.1%)	29/66 (43.9%)	0.875
C-RARP	122/197 (57.4%)	52/122 (42.6%)	

C-RARP: Conventional robotic-assisted radical prostatectomy, RS-RARP: Retzius sparing robotic-assisted radical prostatectomy

volume centers have reported similar continence rates between the two at 12 months.[13] This could be attributed to their vast experience with C-RARP leading to the superior continence.[13] Ota *et al.* determined that the reduced bladder descent and the maintenance of a longer membranous length results in the early continence recovery after RS-RARP.[17]

In our series, the overall PSM rate was not higher after RS-RARP. However, RS-RARP was an independent predictor of apical, posterolateral, and anterolateral PSMs. There was no difference in the PSM rate at the base of the prostate. The three studies that compared RS-RARP and C-RARP noted higher PSM rates following the RS-RARP, which did not reach a statistical significance and the sample size was also too small to allow for definitive conclusions.[11,15,16] Similarly, in the case series by Galfano *et al.* and Santok *et al.* the overall rate of PSMs was 25.5% and 22.7%, respectively.[12,13,18] Dalela *et al.* reported a PSM rate of 12% for the posterior approach versus 8% in the anterior technique.[13] Sayyid *et al.* have reported a PSM rates of 17% for the posterior approach versus 13% for the anterior approach for pT2 disease and 49% versus 48% for pT3 disease.[15] Similar to our study, some authors have recognized a slightly higher incidence of PSMs in the anterior location after RS-RARP.[11,19] Eden *et al.* found a PSM rate of 0% versus 0% (pT2 disease) and 5% versus 0% (pT3 disease) in the anterior region of the prostate for the RS-RARP group when compared to the conventional approach, respectively.[19] In RS–RARP, the dissection on the anterolateral and the posterolateral aspects is performed close to the prostate excluding the detrusor apron. This could be a plausible reason for the high PSM rates at these sites. From a pathological standpoint, the paucity of extraprostatic tissues in these regions may have led to the interpretation of PSM. The increased site-specific PSM rates are one of the cardinal findings of our study.

Our experience is unique in that we report from a moderate volume center and the majority of our cases belonged to the high or the intermediate risk group (87% in our study). The outcomes of RS-RARP in patients with high risk disease have not been reported widely in the previous studies. A study of 50 consecutive patients demonstrated that RS-RARP can be performed safely in patients with high risk prostate cancer with good outcomes.[20] They have reported excellent continence rate at 1 year and also subsequent to the radiotherapy.[21]

The complication rate between the two groups was similar in our study [Table 1]. But of note, one patient with a large prostate sustained ureteric injury and another had anastomotic leakage following RS-RARP [Table 3]. The inability to look inside the bladder during RS-RARP, together with the proximity of the distal ureters to the lateral pedicles of the prostate, has probably resulted in the ureteric injuriy.[19] We believe that the chances of surgical complications are higher in the initial cases of RS-RARP and recommend that the surgeon should not hesitate to convert to C-RARP. We also had five conversions to C-RARP in our series which is attributed to the advanced stage of the disease and failure to progress. The inability to address the patients with advanced disease early in the learning curve would have led to a selection bias leading to a reduced number of patients with seminal vesicle invasion in the RS-RARP group. With more centers taking up RS-RARP, we believe there would be an increase in the availability of the mentors. In the initial phases of RS-RARP, a large gland or a gland with median lobe can be challenging. Recently, Olivero *et al.* conducted a retrospective propensity score-matched analysis between the experienced and the young surgeons who are in their learning curve.[21] They found that with adequate training an inexperienced surgeon can also perform RS-RARP with good oncological efficacy and functional outcomes.[20]

RS-RARP confers several advantages compared to the C-RARP. RS-RARP was an independent predictor for

console time and is faster than C-RARP in spite of the steep learning curve in our study.[15] Compared to the C-RARP, several steps are circumvented in RS-RARP such as the mobilization of the bladder, defatting the prostate, incision of the endopelvic fascia, ligation and division of the dorsal vein complex, and anatomical reconstruction such as the insertion of a Rocco suture. This has translated to a reduced console time with RS-RARP. RS-RARP is the preferred approach in patients who have undergone a mesh inguinal hernia repair and in renal transplant recipients.[15] RS-RARP is also postulated to have reduced the incidence of postoperative inguinal hernia.[22]

Our study is a retrospective analysis and does not provide the highest quality of evidence comparable to a randomized controlled trial. In spite of that, we believe that this represents a pragmatic scenario of a transition from RS-RARP to C-RARP. One of the drawbacks of our study is the high PSM rate which could be attributed to the larger cohort of high risk cases and pT3 disease (63.3%). A study by Eden *et al*. where a similar cohort of high-risk prostate cancer was evaluated also had similar rates of PSM.[19] The above-mentioned reason also indirectly contributed to the reduction in the number of the patients in whom the nerve sparing was performed, rendering it difficult to analyze the impact of RS-RARP on erection in our study. Some of the studies previously performed on this subject have performed a propensity matched analysis.[11,21] Lack of the propensity matching of the cohorts could be considered as another limitation of our study. Also, our study lacks a long-term follow-up in terms of oncological and functional outcome regarding RS-RARP.

CONCLUSION

RS-RARP has better continence rates at 12 months compared to the conventional approach. RS-RARP is an independent predictor of continence at 3, 6, and 12 months. Regardless of the learning curve involved, RS-RARP consumed less time compared to the C-RARP. RS-RARP is an independent predictor of increased PSM rates at the anterolateral, apex, and the posterolateral aspects of the prostate. Our experience provides a "real world" scenario of outcomes that a surgeon can expect when transitioning from C-RARP to RS–RARP.

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