

Preliminary evidence of the impact of social distancing on psychological status and functional outcomes of patients who underwent robot-assisted radical prostatectomy

Francesco Chiancone, Marco Fabiano, Maurizio Fedelini, Maurizio Carrino, Clemente Meccariello, Paolo Fedelini

AORN A. Cardarelli, Department of Urology, Naples, Italy

Citation: Chiancone F, Fabiano M, Fedelini M, Carrino M, Meccariello C, Fedelini P. Preliminary evidence of the impact of social distancing on psychological status and functional outcomes of patients who underwent robot-assisted radical prostatectomy. Cent European J Urol. 2020; 73: 265-268.

Article history

Submitted: July 26, 2020

Accepted: Aug. 10, 2020

Published online: Aug. 19, 2020

Corresponding author

Francesco Chiancone
9 Via A. Cardarelli
80131 Naples, Italy
phone +39 340 86 39 711
francescok86@gmail.com

Introduction Social distancing is considered the best strategy to prevent the spread of COVID-19 (COro-naVirus Disease 19). We aimed to analyse the effect of 'social distancing' on the emotional state, post-operative pain and functional outcomes of patients undergoing robot-assisted radical prostatectomy (RARP).

Material and methods We retrospectively reviewed data of male patients who underwent RARP within the study period (from March to April 2019 [Group A = 27 patients] and from March to April 2020 [Group B = 29 patients]). Patient Health Questionnaire-9 (PHQ-9) and Generalized Anxiety Disorder-7 (GAD-7) results were collected on the first day of hospitalization. Post-operative pain was assessed using the numerical rating scale (NRS) and visual analogic scale (VAS) after surgery in the post-anesthesia care unit (PACU) and at 24 hours. Functional outcomes were evaluated at the one-month follow-up. Demographic, pathological and peri-operative data were collected for all patients.

Results There were no significant differences in demographics and pathological characteristics amongst the groups. We observed that patients in Group A had a statistically lower value on the PHQ-9 and GAD-7 questionnaires than patients of Group B. Moreover, Group A showed statistically significant better post-operative pain control in PACU and at 24 hours. At one-month follow-up, patients in Group B required more diapers for incontinence than Group A, showing poor early continence. Patients in Group A showed interest in sexual rehabilitation after $1.11 \pm .320$ months while patients in Group B after $2.59 \pm .712$ months ($p < .001$). Moreover, 17 out of 29 patients (58.62%) in Group B were referred to an andrologist, compared to 100% of patients from Group A ($p = 0.0006$).

Conclusions Social distancing during the COVID-19 pandemic is associated with a poor pre-operative emotional state, as well as influencing post-operative pain, early urinary continence and desire for sexual rehabilitation.

Key Words: COVID-19 ↔ robot-assisted radical prostatectomy ↔ social distancing
↔ outcomes ↔ depression

INTRODUCTION

The COVID-19 pandemic has generated a revolution in outpatient and inpatient care management [1]. Social distancing is considered the best strategy to prevent the spread of COVID-19 (COro-naVirus Disease 19) [2]. Particularly, in our Department hospi-

talized patients are completely isolated and visits from relatives and friends are absolutely abolished. Moreover, all patients are admitted to a single room. Literature data shows that depression is a common cause of morbidity in patients who undergo surgery. Depression can be considered an independent risk factor for postoperative delirium and may cause

a long and incomplete recovery after surgery [3]. We aimed to analyse the effect of 'social distancing' on the emotional state, post-operative pain and functional outcomes of patients undergoing robot-assisted radical prostatectomy (RARP).

MATERIAL AND METHODS

We retrospectively reviewed data of male patients who underwent RARP [4] within the study period (from March to April 2019 [Group A = 27 patients] and from March to April 2020 [Group B = 29 patients]). Despite the continued debate on the performance of minimally invasive surgery during the COVID-19 pandemic due to the risk of viral diffusion in the operating theatre, all prostatic cancers were managed with a robot-assisted approach using the AirSeal Intelligent Flow System [5]. After orotracheal intubation, a bilateral Transversus Abdominis Plane (TAP)-block was performed according to Rafi's technique [6]. Retropubic RARP and posterior musculofascial reconstruction according to Rocco's technique was performed in all patients [7].

Since 2017 our Urology Department provides psychological support for all patients undergoing surgery for pelvic cancer and some questionnaires are administered to the patients. Patient Health Questionnaire-9 (PHQ-9) and Generalized Anxiety Disorder-7 (GAD-7) results were collected on the first day of hospitalization [8]. Post-operative pain was assessed using the numerical rating scale (NRS) and visual analogic scale (VAS) after surgery in the post-anesthesia care unit (PACU) and at 24 hours. Functional outcomes were evaluated at the one-month follow-up. Demographic, pathological and peri-operative data were collected for all patients. All data was collected in a prospectively maintained database and retrospectively analysed. Descriptive statistics of categorical variables focused on frequencies and proportions. Mean values with standard deviations (\pm SD) were computed and reported for all items. Yates' chi-square and Student's t-tests were used to compare the statistical significance of differences in proportions and means, respectively. Statistical significance was achieved if p-value was ≤ 0.05 (two-sides). Statistical analyses were performed using SPSS version 23.0 (Armonk, NY: IBM Corp.).

RESULTS

There were no significant differences in demographic characteristics amongst the groups. Moreover, rates of pelvic lymphadenectomy, nerve-sparing and bladder neck sparing techniques were similar across

groups. Pathological stage and Gleason Score were also similar amongst the groups (Table 1). No urine leakage [9] and post-operative complications were detected.

Table 1 summarizes the differences in questionnaires, post-operative pain and functional outcomes between the two groups. We observed that patients

Table 1. Differences between the two groups in demographic and pathological characteristics of patients, questionnaires, post-operative pain and functional outcomes

	Group A n = 27 (2019)	Group B n = 29 (2020)	p value
Age (years)	63.71 \pm 6.82	64.43 \pm 6.91	.6965
BMI	26.81 \pm 1.62	26.32 \pm 1.30	.2158
Diabetes	5/27 (18.52%)	6/29 (20.69%)	.8948
Prostate volume	45.07 \pm 20.59	47.7 \pm 16.15	.5956
Unilateral nerve-sparing technique	5/27 (18.52%)	6/29 (20.69%)	.8948
Bilateral nerve-sparing technique	10/27 (37.04%)	12/29 (41.38%)	.9532
Non-nerve-sparing technique	12/27 (44.44%)	11/29 (37.93%)	.8233
Bladder neck preservation	23/27 (85.19%)	26/29 (89.66%)	.9195
Pelvic lymphadenectomy	13/27 (48.15%)	14/29 (48.28%)	.7964
Duration of indwelling catheter	6.86 \pm 1.04	7.07 \pm 1.11	.4690
Gleason Score 6 (ISUP grade 1)	5/27 (18.52%)	6/29 (20.69%)	.8948
Gleason Score 7 (ISUP grade 2)	10/27 (37.04%)	9/29 (31.03%)	.8480
Gleason Score 7 (ISUP grade 3)	9/27 (33.33%)	11/29 (37.93%)	.9364
Gleason Score 8 (ISUP grade 4)	3/27 (11.11%)	3/29 (10.34%)	.7341
Pathological stage pT2	16/27 (59.26%)	19/29 (65.52%)	.8359
Pathological stage pT3a	8/27 (29.63%)	7/29 (24.14%)	.8715
Pathological stage pT3b	3/27 (11.11%)	3/29 (10.34%)	.7341
Pathologically positive lymph nodes	1/13 (7.69%)	1/14 (7.14%)	.4959
GAD-7	7.37 \pm 1.11	8.48 \pm 1.36	.002
PHQ-9	9.59 \pm 1.65	11.21 \pm 3.26	.024
NRS-PACU	1.37 \pm .49	1.83 \pm .71	.007
NRS-24 hours	.22 \pm .42	.59 \pm .63	.015
VAS-PACU	2.93 \pm .87	3.72 \pm 1.16	.006
VAS-24 hours	.48 \pm .58	1.24 \pm 1.15	.003
N°diapers/day	.48 \pm .51	1.07 \pm .80	.002
Months to sexual rehabilitation	1.11 \pm .32	2.59 \pm .71	<.001

BMI – body mass index; GAD-7 – Generalized Anxiety Disorder-7; PHQ-9 – Patient Health Questionnaire-9; NRS – Numerical Rating Scale; PACU – Post-Anesthesia Care Unit; VAS – Visual Analogic Scale

in Group A had a statistically lower value on the PHQ-9 and GAD-7 questionnaires than patients in Group B. Moreover, Group A showed statistically significant better post-operative pain control in PACU and at 24 hours. At the one-month follow-up, patients in Group B required more diapers for incontinence than Group A, showing poor early continence. Patients in Group A showed interest in sexual rehabilitation after $1.11 \pm .320$ months while patients in Group B after $2.59 \pm .712$ months ($p < .001$). Moreover, 17 out of 29 patients (58.62%) in Group B were referred to an andrologist, compared to 100% of patients from Group A ($p = 0.0006$).

DISCUSSION

Stress, anxiety, depressive symptoms, and insomnia have been documented during the COVID-19 outbreak [1]. Literature data reports that pre-operative depression can predict post-operative pain in patients who underwent open radical prostatectomy [10]. Our results highlight how the pre-operative psychological status of patients who underwent minimally invasive surgery affects post-operative pain. Moreover, depression and anxiety are shown to be risk factors for developing urinary incontinence with a dose-dependent trend [11]. Particularly, pre-operative depression or anxiety were associated with worse urinary continence status in a retrospective analysis of 5862 patients who underwent radical surgery for prostate cancer [12]. Depression was also found to be significantly associated with sexual functioning in men with a medical or surgical comorbidity, substance use, or other comorbid psychiatric disorders [13].

In our Department, outpatient visits were reserved only for oncological patients during the COVID-19 pandemic [4]. Despite this, all patients of Group B were consulted over the telephone about their desire for sexual rehabilitation.

In our experience, during the COVID-19 pandemic, a lot of patients refused recommended sexual rehabilitation protocols. The missed or late sexual rehabilitation will possibly have an influence on future sexual function [14]. Moreover, sexual activity is considered by patients to a lesser degree because sexual needs are composed of a biological, psychological and social component [15]. Our results provide a further demonstration of the need of psychosexual counseling in patients who underwent pelvic surgery [16]. However, other large-scale prospective studies are needed to evaluate post-operative and functional outcomes of 'social distancing' on patients undergoing pelvic surgery. In particular, a multivariate analysis of factors influencing continence and sexual rehabilitation should be evaluated. Some home-based programs could expand to accommodate patients who are displaced from on-site care, enabling uninterrupted care while both patients and providers can remain at home [17].

CONCLUSIONS

Social distancing during COVID-19 pandemic is associated with a poor pre-operative emotional state, influencing post-operative pain, early urinary continence and desire for sexual rehabilitation.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

References

- Puliatti S, Eissa A, Eissa R, et al. COVID-19 and urology: a comprehensive review of the literature. *BJU Int.* 2020; 125: E7-E1.
- Pańczyk J, Kamecki H, Tchórzewska-Korba H, Szulerecki P, Rosa A, Sosnowski R. Maintaining physical activity in the era of COVID-19 pandemic: A chair-based exercise program for home-isolated elderly prostate cancer patients. *Cent European J Urol.* 2020; doi: 10.5173/cej.2020.0178.0178 [Epub ahead of print]
- Ghoneim MM, O'Hara MW. Depression and postoperative complications: an overview. *BMC Surg.* 2016; 16: 5.
- Chiancone F, Fedelini P. Managing change in the urology department of a large hospital in Italy during the COVID-19 pandemic. *Int J Urol.* 2020 [published online ahead of print, 2020 Jun 23].
- Esposito C, Masieri L, Castagnetti M, Crocetto F, Escolino M. Letter to the Editor: Robot-Assisted and Minimally Invasive Pediatric Surgery and Urology During the COVID-19 Pandemic: A Short Literature Review. *J Laparoendosc Adv Surg Tech A.* 2020 [published online ahead of print, 2020 Jun 4].
- Rafi AN. Abdominal field block: a new approach via the lumbar triangle. *Anaesthesia.* 2001; 56: 1024-1026.
- Spinelli MG, Cozzi G, Grasso A, et al. Ralp e Rocco stitch: tecnica originale [Ralp and Rocco stitch: original technique]. *Urologia.* 2011; 78 Suppl 18: 35-38.
- Fu W, Wang C, Zou L, Guo Y, Lu Z, Yan S, et al. Psychological health, sleep quality, and coping styles to stress facing the COVID-19 in Wuhan, China. *Transl Psychiatry.* 2020; 10: 225.
- Dal Moro F, Paolo P, Zattoni F. Can anastomotic urinary leakage in robotic prostatectomy be considered as a marker of surgical skill? *Cent European J Urol.* 2018; 71: 21-25.
- Ene KW, Nordberg G, Sjöström B, Bergh I. Prediction of postoperative pain after radical prostatectomy. *BMC Nurs.* 2008; 7: 14.

11. Felde G, Ebbesen MH, Hunskaar S. Anxiety and depression associated with urinary incontinence. A 10-year follow-up study from the Norwegian HUNT study (EPINCONT) *Neurourol Urodyn.* 2017; 36: 322-328.
12. Pompe RS, Krüger A, Preisser F, et al. The Impact of Anxiety and Depression on Surgical and Functional Outcomes in Patients Who Underwent Radical Prostatectomy. *Eur Urol Focus.* 2018 [published online ahead of print].
13. Thakurdesai A, Sawant N. A prospective study on sexual dysfunctions in depressed males and the response to treatment. *Indian J Psychiatry.* 2018; 60: 472-477.
14. Ljunggren C, Ströberg P. Improvement in sexual function after robot-assisted radical prostatectomy: A rehabilitation program with involvement of a clinical sexologist. *Cent European J Urol.* 2015; 68: 214-220.
15. Tirgari B, Rafati F, Mehdipour Rabori R. Effect of Sexual Rehabilitation Program on Anxiety, Stress, Depression and Sexual Function among Men with Coronary Artery Disease. *J Sex Marital Ther.* 2019; 45: 632-642.
16. Skrodzka M. Sexual rehabilitation or penile rehabilitation- do we have an optimal post-prostatectomy regimen? *Cent European J Urol.* 2015; 68: 221-222.
17. Drwal KR, Forman DE, Wakefield BJ, El Accaoui RN. Cardiac Rehabilitation During COVID-19 Pandemic: Highlighting the Value of Home-Based Programs. *Telemed J E Health.* 2020 [published online ahead of print, 2020 Jun 17]. ■