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Climacturia after prostatectomy: hidden struggles in sexual well-being

Prevalencia de climacturia posterior a la prostatectomía: retos ocultos en la salud sexual

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Abstract

Objective: *Climacturia is a form of urinary incontinence associated with orgasm that occurs after radical prostatectomy, which extends beyond the physical realm and affects patients' psychological well-being. This study aimed to identify the prevalence of climacturia in patients who underwent radical prostatectomy at a Latin American reference center for the management of prostate cancer.* **Method***: We performed a cross-sectional study that included patients who underwent radical prostatectomy between January 2020 and March 2023 at our institution. Those who had completed more than 6 months after surgery were included, while those who had received other forms of therapy, such as radiation, were excluded. Continuous variables are presented as measures of central tendency according to the normality of their distribution. Categorical variables are presented with frequency tables and percentages. The main outcome was the presence of urinary incontinence at the moment of sexual climax reported by patients.* **Results:** *The prevalence of climacturia was 30%; 54 patients (32%) reported urinary incontinence during excitation, and 37 patients (21,8%) reported both issues. Nevertheless, up to 67.3% of patients reported some degree of incontinence unrelated to sexual activity. Finally, 21.2% of patients with climacturia reported being satisfied with their sexual activity, compared to 30.3% of patients who did not report climacturia, although no statistically significant difference was observed (p = 0.23).* **Conclusions:** *Climacturia is a frequent side effect of the radical prostatectomy, which must be considered in the follow-up of patients undergoing radical prostatectomy and may affect the patients' quality of life.*

Keywords: *Sexual health. Prostatectomy. Urinary Incontinence. Orgasmic disorder. Climacturia.*

Resumen

Objetivo: *La climacturia es una forma de incontinencia urinaria asociada al orgasmo que ocurre después de una prostatectomía radical y va más allá del ámbito físico, afectando el bienestar psicológico de los pacientes. El objetivo de estudio es identificar la prevalencia de climacturia en pacientes que se sometieron a prostatectomía radical en un centro de cuidado clínico latinoamericano para el manejo del cáncer de próstata.* **Método:** *Se llevo a cabo un estudio observacional de corte transversal a pacientes que se sometieron a prostatectomía radical entre enero de 2020 y marzo de 2023 en nuestra institución. Se incluyeron aquellos que habían completado más de seis meses posterior a la realización del procedimiento quirúrgico y se excluyeron aquellos pacientes que recibieron otras formas de terapia como la radioterapia. Las variables continuas se presentan como medidas de tendencia central según la normalidad de su distribución. Las variables categóricas se presentan con tablas de frecuencia y porcentajes. El desenlace principal fue la presencia de incontinencia urinaria en el momento del clímax sexual reportado por los pacientes.* **Resultados:** *La prevalencia de climacturia fue del 30%; 54*

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pacientes (32%) reportaron incontinencia urinaria durante la excitación y 37 pacientes (21.8%) reportaron ambos problemas. No obstante, hasta el 67.3% de los pacientes reportaron algún grado de incontinencia urinaria independiente de la actividad sexual. Finalmente, el 21.2% de los pacientes con climacturia reportaron estar satisfechos con su actividad sexual, en comparación con el 30.3% de los pacientes que no reportaron climacturia, aunque no se observó una diferencia estadísticamente significativa (p = 0.23). **Conclusiones:** *La climacturia es un efecto secundario frecuente de la prostatectomía radical que debe ser considerado en el seguimiento de los pacientes que se someten a esta cirugía ya que puede afectar en gran medida la calidad de vida de los mismos.*

Palabras clave: *Salud sexual. Prostatectomía. Incontinencia urinaria. Trastornos del orgasm. Climacturia.*

Introduction

Radical prostatectomy stands as the primary curative intervention for localized prostate cancer[1]. Nevertheless, this procedure is accompanied by potential risks in terms of urinary continence and sexual health. Studies have reported urinary incontinence in 42% of patients 24 months after surgery[1]. On the other hand, in sexual health, the most well-known adverse outcome is erectile dysfunction, whose reported prevalence ranges from 60–72% according to the surgical approach to prostatectomy[2]. The impact of these alterations on patients' quality of life post-surgery is well documented. However, other sexual health disorders that receive less attention and are less reported during medical consultation include lower sexual desire, reduced intercourse frequency, anorgasmia, less satisfying orgasm, climacturia, greater distress, and lower partner satisfaction[3]. Recognizing the significance of studying additional post-prostatectomy issues is essential to comprehensively understand their broader impact on patients' overall well-being.

Notably, one such aspect is climacturia, a form of urinary incontinence associated with orgasm. The prevalence of climacturia ranges from 15.7% to 93%[4]. This complication extends beyond the physical realm, impacting patients' psychological well-being, leading to the avoidance of sexual activity, a heightened sense of anxiety, and a diminished quality of life[5]. Despite this, climacturia is underreported in the literature, and there are no studies on its prevalence in developing countries. This study aims to identify the prevalence of climacturia in patients submitted to radical prostatectomy in a Latin American reference center in the management of prostate cancer.

Material and methods

We performed a cross-sectional study that included patients who underwent radical prostatectomy between January 2020 and March 2023 at our institution. Those who had completed more than 6 months since surgery were included, whereas those who had received other forms of therapy, such as radiation, were excluded.

Patients who met the inclusion criteria were contacted by telephone; once verbal consent to participate in the study was obtained, the survey was sent by e-mail through the RedCap platform[6]. The survey included questions about the type of prostatectomy performed (open vs. robotic), the number of sexual partners, urine leakage during arousal or orgasm, and the ICIQ for urinary incontinence and SHIM questionnaire for erectile dysfunction symptoms. The clinical and sociodemographic data were completed with information from the medical record. The responses collected were anonymized to reduce the possibility of patient embarrassment and increase survey return rates.

Statistical analysis

The sample size of 162 patients was calculated considering an approximate prevalence of climacturia of 23%[7] and a population of 400 patients, using a 5% margin of error and a 95% confidence interval.

Continuous variables are presented with measures of central tendency according to the normality of their distribution. Categorical variables are presented with frequency tables and percentages. The main outcome was the presence of urinary incontinence at the moment of sexual climax reported by patients. Statistical significance was set at $p < 0.05$. The analyses were performed in the Jamovi 2.3.21 application. The tables were created using Microsoft Excel. We analyze the relationships between categorical variables using Pearson's Chi-squared test.

Ethical statement

The original study was performed in line with the principles of the Declaration of Helsinki. Approval was

granted by the Ethics Committee of Fundación Santa Fe de Bogotá (CCEI-15935-2023).

Results

One hundred and ninety-nine patients meeting the inclusion criteria were contacted; of these, 170 completed the questionnaire with a response rate of 85%, with no missing. The median age was 64 years (IQR: 9), and the mean number of sexual partners was one. Comorbidities included overweight (57.8%), hypertension (16.6%), diabetes (5%), and 8.5% had no medical history of any medical condition. Robot-assisted radical prostatectomy was performed in 82.4% of patients and 17.6% by open radical prostatectomy. Table 1 summarizes the clinical and sociodemographic information.

The prevalence of climacturia was 30%, 54 patients (32%) reported urinary incontinence during excitation, and 37 patients (21.8%) reported both issues. Nevertheless, up to 67.3% of patients reported some degree of incontinence unrelated to sexual activity. Of these incontinent patients, the most common trigger for incontinence was physical activity, as informed in the ICIQ. Table 2 presents the prevalence of climacturia and other types of incontinence evaluated.

The patients were categorized into two groups: those experiencing climacturia and those without this condition table 3. Within the climacturia group, the assessment of orgasm quality revealed that 8 patients (17%) reported an improvement, 10 patients (21.2%) had no significant change, and 22 patients (46.8%) reported a reduction in their orgasmic experience. In comparison, among the patients without climacturia, 33 individuals (29.4%) reported a worsening of orgasm, 28 patients (25%) observed no change, and 19 patients (16.9%) reported an improvement. Finally, the global prevalence of anorgasmia was 24.5% with a higher frequency in patients without climacturia (28.6%). A comparative analysis of the two groups indicated a greater deterioration in orgasm quality among patients with climacturia ($p = 0.02$). Concerning urinary incontinence, mild incontinence was predominant in both groups, with 38.8% in the climacturia group and 55.8% in the non-climacturia group. Severe urinary incontinence was identified in 3 patients, of whom 2 reported climacturia. In addition, 21.2% of patients with climacturia expressed satisfaction with their sexual activity, compared to 30.3% of patients without climacturia; however, this difference was not statistically significant ($p = 0.23$).

Table 1. Demographics

Median age (IQ)	64 (9)
IMC, n (%)	
Underweight	1 (0.5)
Normal	65 (32.7)
Overweight	115 (57.8)
Obese I	17 (8.5)
Obese II	1 (0.5)
Comorbidities, n (%)	
No comorbidities	17 (8,5)
Hypertension	33 (16,6)
Diabetes	10 (5)
RP type, n (%)	
RALP	164 (82,4)
ORP	35 (17,6)

Table 2. Climacturia and urinary continence

Parameter	%	n
Climacturia	30	51
Urinary leakage during excitation	32	54
Urinary leakage during excitation and climacturia	21,8	37

Discussion

In this study, we identified a prevalence of climacturia of 30% among patients undergoing radical prostatectomy for prostate cancer in our institution. Similar to our results, Mitchel et al.'s single-center investigation found that the prevalence of climacturia was 44.4% at 3 months and decreased to 36.1% after 24 months[8]. It should be noted that in previous publications, the documented prevalence of climacturia ranges widely from 15.7% to 93%[4]. Several factors contribute to this variability, such as the absence of established assessment scales for climacturia, variations in the timing of assessment, data collection procedures, and the omission of questions about climacturia during medical consultations.

As evident, not every patient undergoing radical prostatectomy experiences climacturia; various risk factors have been identified in its development, categorized into two groups: intrinsic factors, unalterable due to the patient's clinical history, and extrinsic factors related to surgery. The first group encompasses comorbidities and specific anatomical characteristics. According to Jimbo et al., BMI was not identified as a significant risk factor for climacturia development, while diabetes was

Table 3. Climacturia and others

Parameter	Climacturia (n = 47)	No climacturia (n = 112)	p
Orgasm quality, n (%)			0.02
Orgasm enhancement	8 (17)	19 (16.9)	
No changes	10 (21.2)	28 (25)	
Anorgasmia	7 (14.9)	32 (28.6)	
Orgasm worsening	22 (46.8)	33 (29.4)	
Urinary incontinence, n (%)			0.016
Slight	19 (38.8)	63 (55.8)	
Moderate	13 (26.5)	34 (30.1)	
Severe	13 (26.5)	8 (7.1)	
Very severe	1 (2)	2 (1.8)	
Sexual satisfaction, n (%)	10 (21.2)	34 (30.3)	0.23

associated with a decreased risk[9]. There was no correlation found between hypertension and climacturia in the literature. Penile length and a history of urinary incontinence (UI) have not been proven to be correlated, whereas urethral width has indeed shown an association with climacturia[10]. Among the extrinsic risk factors is the absence of bilateral nerve-sparing inherent in the procedure.

Regarding surgical approach, our study indicated a higher prevalence of climacturia in patients who underwent open radical prostatectomy (37.5%) compared to those who underwent robot-assisted radical prostatectomy (29.1%). However, this difference was not statistically significant (p = 0.526). This finding is consistent with the Capogrosso[11] urology team's report, which showed no difference in climacturia prevalence between open and robot-assisted radical prostatectomy. Notably, the minimally invasive approach demonstrated faster recovery over time, as supported by Yaxley et al.[12] study on sexual function scores, which showed no significant difference at 6 weeks post-surgery (30·70 vs. 32·70; p = 0·45) or 12 weeks' post-surgery (35·00 vs. 38·90; p = 0·18) comparing radical retropubic prostatectomy group and robot-assisted laparoscopic prostatectomy. Climacturia was not described as an outcome in this study.

Climacturia's impact on the overall quality of life is crucial to emphasize. It not only causes social discomfort but also leads to the avoidance of intimate encounters, posing challenges in interpersonal relationships and significantly affecting patients' holistic well-being[13]. While erectile dysfunction is a primary focus in assessing sexual health, there are other sexual impairments, such as dysorgasmia, anorgasmia, altered sensation[14], reduced sexual desire, decreased intercourse frequency, and less satisfying orgasms[3]. In our study, worsening orgasm quality was identified in 39% of patients, with a prevalence of anorgasmia reaching 24.5%. In addition, only 27.6% of surveyed patients were satisfied with their sex life. The study's methodology, however, did not allow us to determine the impact of these factors on patients' sexual lives.

Despite its contributions, this study has limitations. The evaluated population is from a single institution with continuous follow-up, and the virtual survey format might lead to non-responses. Furthermore, it is impossible to guarantee that patients are aware of every term used in the survey. For instance, some patients reported experiencing climacturia without orgasm which may indicate that there was no clear difference between orgasm and ejaculation in this small subgroup of the study.

To our knowledge, this is the first study that evaluates the prevalence of climacturia in Colombia. Emphasizing the investigation of sexual health alterations is crucial for developing comprehensive solutions. A nuanced exploration of these deviations, through standardized follow-up of radical prostatectomy patients, not only enriches our understanding but also forms the basis for targeted interventions. Rigorous studies on unconventional aspects of sexual health pave the way for informed therapeutic strategies and contribute to overall well-being in sexual medicine.

Conclusions

The prevalence of climacturia in our institution was 30% after radical prostatectomy, and more than 20% presented urine leakage with excitation. Not all these patients were incontinent with other activities of daily

living. Climacturia and other alterations in sexual health must be considered in the follow-up of patients undergoing radical prostatectomy and may affect the patients' quality of life. Further studies should be conducted to determine the impact and correlations of climacturia in patients undergoing radical prostatectomy, to define strategies to be implemented.

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The authors declare that this work was carried out with the authors' own resources.

Conflicts of interest

The authors declare that they have no conflicts of interest.

Ethical disclosures

Protection of humans and animals. The authors declare that no experiments on humans or animals were performed for this research.

Confidentiality of data. The authors declare that they have followed their center's protocols on the publication of patient data.

Right to privacy and informed consent. The authors have obtained the informed consent of the patients and/or subjects referred to in the article. This document is in the possession of the corresponding author.

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