ORIGINAL ARTICLE

Psychotherapy: A missing piece in the puzzle of post radical prostatectomy erectile dysfunction rehabilitation

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Abstract

Objectives: To measure the impact of psychotherapy associated to the use of Tadalafil in the improvement of erectile function after radical prostatectomy.

Methods: From 132 patients surgically treated for prostate cancer, 30 sequential patients with bilateral nerve sparing, low risk controlled disease and post-surgery erectile dysfunction (ED) took Tadalafil 20 mg and underwent psychotherapy sessions, both weekly for 3 months. Patients were interviewed to establish the quality of erection using the instrument IIEF-5 and to measure psychological features impacting erectile function, the aspects related to function, dysfunction, physical and emotional discomfort were evaluated with the help of an intensity scale.

Results: The average age was 62.5 (46–77 years), 96.7% had a stable relationship, 56.6% of the patients accepted the diagnosis and 43.2% exhibited defense mechanisms (3.3% negation, 6.6% revulsion, 33.3% concern). A positive correlation was observed between erectile function and time exposed to treatment (IIEF-5 = 9.7–13.3, p = 0.0006), with increased satisfaction with life in general (2.1–2.7, p = 0.028) and sexual life (3.1–3.7, p = 0.028), added to facilitation of expressing feelings/emotions (1.8–3.0, p = 0.0008). Satisfaction with relationship and intimacy with partner did not present significant improvement (p = 0.12 and p = 0.61, respectively).

Conclusions: A holistic patient care with more complete ED rehabilitation includes psychotherapy with a positive correlation between erectile function and treatment exposition. Psychotherapy allowed the identification of important spouse related factors in this scenario.

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PALABRAS CLAVE

Calidad de vida; Función eréctil; Cónyuge;

Psicoterapia: una pieza que falta en el puzzle de la rehabilitación de la disfunción eréctil tras prostatectomía radical

Resumen

Objetivos: Medir el impacto de la psicoterapia asociada al uso de tadalafilo en la mejora de la función eréctil después de la prostatectomía radical.

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**Métodos:** De 132 pacientes intervenidos quirúrgicamente por cáncer de próstata 30 pacientes consecutivos con preservación nerviosa bilateral, enfermedad controlada de bajo riesgo y disfunción eréctil (DE) después de la cirugía tomaron tadalafil 20 mg y se sometieron a sesiones de psicoterapia, ambas semanalmente durante 3 meses. Los pacientes fueron entrevistados para establecer la calidad de la erección utilizando el instrumento IIEF-5 y para medir las características psicológicas que afectan la función eréctil, los aspectos relacionados con la función, la disfunción, la incomodidad física y emocional se evaluaron con la ayuda de una escala de intensidad.

**Resultados:** La media de edad era de 62,5 (46-77 años), el 96,7% tenía una relación estable, el 56,6% de los pacientes aceptó el diagnóstico y el 43,2% mostró mecanismos de defensa (3,3% negación, 6,6% repulsión y 33,3% preocupación). Se observó una correlación positiva entre la función eréctil y el tiempo de exposición al tratamiento (IIEF-5 = 9,7 a 13,3; p = 0,0006), con un aumento de la satisfacción con la vida en general (2,1 a 2,7; p = 0,028) y de la vida sexual (3,1 a 3,7; p = 0,028), sumada a la facilitación de la expresión de sentimientos/emociones (1,8 a 3,0; p = 0,0008). La satisfacción con la relación y la intimidad con la pareja no presentó mejoría significativa (p = 0,12 y p = 0,61, respectivamente).

**Conclusiones:** Una atención al paciente holística con rehabilitación con DE más completa incluye psicoterapia con una correlación positiva entre la función eréctil y la exposición al tratamiento. La psicoterapia permitió la identificación de factores conyugales en este escenario.

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**Introducción**

El cáncer de próstata (PCa) es el segundo cáncer más común en hombres y representa un problema de salud significativo. A nivel mundial, más de 900,000 hombres son diagnosticados con cáncer de próstata cada año con un estimado de 258,000 muertes en 2008.1 La incidencia de PCa está en constante aumento en los países desarrollados, reflejando el uso amplio de pruebas específicas para la próstata. Debido a la detección temprana, la mayoría de los pacientes diagnosticados con cáncer de próstata se encuentran confinados, para lo cual la cirugía radical de próstata (RP) es una opción de tratamiento a largo plazo. El estado general de salud hepática de los hombres con cáncer de próstata considerado es de 97% a 5 años, 79% a 10 años y 57% a 15 años.2,3

A pesar de que la cirugía es el primer tratamiento para el cáncer, tiene la mayor probabilidad de supervivencia a largo plazo, con menos complicaciones, y mejora la calidad de vida.3-5,

En contraste con las investigaciones previas, la literatura científica muestra que la psicoterapia es un efectivo método de tratamiento de la función sexual y la psicofisiología del hombre. 6-11

El objetivo de este estudio fue medir el impacto de la psicoterapia asociada con el uso de la medicación Tadalafil, un inhibidor de PDE-5, ampliamente utilizado en el tratamiento de la ED, en la función sexual post-rehabilitación de la RP, así como para identificar los factores relacionados con la función eréctil en un paciente holístico.

**Métodos**

De 132 pacientes con RP en un consultorio de urología entre 2009 and 2010, 30 pacientes consecutivos con preservación nerviosa bilateral, enfermedad controlada de bajo riesgo y disfunción eréctil (DE) después de la cirugía tomaron tadalafil 20 mg y se sometieron a sesiones de psicoterapia, ambas semanalmente durante 3 meses. Los pacientes fueron entrevistados para establecer la calidad de la erección utilizando el instrumento IIEF-5 y para medir las características psicológicas que afectan la función eréctil, los aspectos relacionados con la función, la disfunción, la incomodidad física y emocional se evaluaron con la ayuda de una escala de intensidad.

**Resultados:** La media de edad era de 62,5 (46-77 años), el 96,7% tenía una relación estable, el 56,6% de los pacientes aceptó el diagnóstico y el 43,2% mostró mecanismos de defensa (3,3% negación, 6,6% repulsión y 33,3% preocupación). Se observó una correlación positiva entre la función eréctil y el tiempo de exposición al tratamiento (IIEF-5 = 9,7 a 13,3; p = 0,0006), con un aumento de la satisfacción con la vida en general (2,1 a 2,7; p = 0,028) y de la vida sexual (3,1 a 3,7; p = 0,028), sumada a la facilitación de la expresión de sentimientos/emociones (1,8 a 3,0; p = 0,0008). La satisfacción con la relación y la intimidad con la pareja no presentó mejoría significativa (p = 0,12 y p = 0,61, respectivamente).

**Conclusiones:** Una atención al paciente holística con rehabilitación con DE más completa incluye psicoterapia con una correlación positiva entre la función eréctil y la exposición al tratamiento. La psicoterapia permitió la identificación de factores conyugales en este escenario.

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**Introduction**

Prostate cancer (PCa) is the second most commonly diagnosed cancer in men and it represents a significant health problem. Worldwide, more than 900,000 men are diagnosed with prostate cancer every year with an estimated 258,000 deaths in 2008.1 The incidence of PCa is continually increasing in developed countries, reflecting the widespread use of prostate-specific antigen screening. Because of early detection, the majority of newly diagnosed cancers are organ confined, for which radical prostatectomy (RP) is a curative treatment option. The overall survival rate for men with PCa in the United States is considered to be 97% at 5 years, 79% at 10 years and 57% at 15 years.2,3

As stated for every cancer treatment, the primary goal of treatment is a combination of the longest survival, fewer complications, and ameliorated health-related quality of life.3

In contrast to the impressive advances in somatic research of erectile dysfunction (ED), scientific literature shows contradictory reports on the results of psychotherapy for the treatment of ED. Research to date has not identified an effective way to improve sexual and psychosocial adjustment for both men with prostate cancer and their partners.

The aim of this research was to measure the impact of psychotherapy associated with the use of the medication Tadalafil, a PDE-5 inhibitor widely used in treatment of ED, in the erectile dysfunction rehabilitation post radical prostatectomy, as well as to identify the factors related to erectile function recovery in a holistic patient care.

**Patients and methods**

From 132 patients treated with radical prostatectomy in an outpatient clinic of urologic oncology between 2009 and 2010, 30 sequential patients presenting no co-morbidity, preserved erectile function, localized, margin free, Gleason 3+3 prostate cancer, and undetectable PSA after bilateral nerve sparing open retroperitoneal radical prostatectomy and who afterwards developed post-surgery erectile dysfunction were included in this prospective longitudinal study. Patients with psychological disturbance and in use of nitrate were excluded. This research underwent local ethics committee approval and patients’ consent to participate.

Patients took Tadalafil 20 mg once a week with recommendations to stimulate erectile function and underwent weekly psychotherapy sessions by the same psychologist for 3 months. During this period, evaluation of side effects from the drug, erectile function, and psychological aspects was conducted. The data were collected by means of an initial interview 60 days after surgery, which was repeated at the end of 12 sessions (3 months).

As a primary end-point, all patients were asked to fill up the previously validated self-administered abridged 5-item version of the International Index of Erectile Function (IIEF-5) questionnaire also described as Sexual Health Inventory for Men, items 5, 15, 4, 2 and 7 from the full-scale IIEF-15.4 The maximal score is 25; lower domain scores indicate impaired EF. Respondents were asked to report their experience over the past 30 days. The abbreviated score was used for its simplicity and immediacy. The optimal cut-off score of 21 or less for diagnosis of ED – sensitivity 0.98; specificity 0.88 – was utilized.4

As secondary end-point, the measurement of psychological features impacting erectile function was done through directed interviews regarding aspects related to function and dysfunction as well as physical and emotional discomfort using the validated questionnaire proposed by Liberman,3 aided by an intensity scale ranging from 0 to 10, where 0 was the worst possible and 10 the best possible.
Table 1  Mean age and erectile function measured by IIEF-5 

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<table>
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<tr>
<td>Age</td>
<td>62.5 years (46–77)</td>
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<tr>
<td>IIEF-5 before treatment</td>
<td>21.2</td>
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<tr>
<td>IIEF-5 after RP</td>
<td>9.7</td>
</tr>
<tr>
<td>IIEF-5 after the protocol</td>
<td>13.3 (p = 0.0006)</td>
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Wilcoxon and ANOVA tests were utilized for statistical analysis and two-sided p < 0.05 was taken as significant.

Results

All 30 patients completed the study and there was no relevant adverse effect impeding medication use. Average age was 62.5 years, ranging from 46 to 77 years and average PSA at diagnosis was 4.3 ng/dl, ranging from 2.4 to 6.5. Regarding educational level, 56.7% (n = 17) of the patients had completed elementary school; 10% (n = 3) of these had a high-school education, and 6.7% (n = 2) had post-secondary education. 66.7% (n = 20) of the patients were Caucasian, 30% African descent, and 3.3% Asian descent. 29 of all patients (96.7%) had a stable relationship, whereas only one of them (3.3%) did not.

The attitude, at the time of the initial interview, regarding the diagnosis of cancer resulted in the following distribution: 56.6% (n = 17) of the patients accepted the diagnosis and 43.2% showed some kind of defense mechanism – 3.3% denial, 6.7% outrage, and 33.3% concern. Concerning the loss of a family member, 16.6% had lost a close relative in the past two years.

There was a significant improvement in erectile dysfunction with the treatment measured by IIEF (9.7–13.3, p = 0.0006), and although not reaching ideal levels, the patients expressed increased satisfaction with their sexual lives (p = 0.028, Table 1).

From the questions asked at the beginning of the therapy and repeated at the end, we found a significant increase in the indexes for the following questions:

1. How satisfied are you with your life in general? (2.1–2.7, p = 0.028);
2. How satisfied are you with your current sexual life? (3.1–3.7, p = 0.028);
3. Do you normally express your feelings/emotions? (1.8–3.0, p = 0.0008).

For the questions: "How satisfied are you with your relationship with your partner?" and "How satisfied are you with your intimacy with your partner?" there was not a significant improvement in the indexes (p = 0.12 and p = 0.61, respectively).

A positive result was observed between number of effective erections and time exposed to the treatment (Fig. 1), as well as gains in the area of quality of life through increase of self-esteem and improvement in erectile function, with a better expression of the patients’ feelings on behalf of themselves and an improvement of life management.

Discussion

It is our understanding that, nowadays, the knowledge of post-treatment life expectancy, complication rate, and response to treating the symptoms is not sufficient to evaluate the impact of the disease and its treatment. We are forced to evaluate the patient’s physical, psychological, and social aspects prior and after treatment.

Traditionally, the concept of quality of life was assigned to philosophers and poets. Nevertheless, since 1948, when the World Health Organization defined “Health” as not only the absence of disease, but physical, psychological, and social wellbeing,6 psychological aspects have become of increasing interest among doctors and researchers.7 The expression “quality of life”, more specifically “health related quality of life”, refers to physical, psychological, and social realms, seen as individual and distinct areas, which are influenced by beliefs, attitudes, values, and an individual’s perception of health.7

Development in the management of PCa and improved longevity after curative treatment for clinically localized disease has placed increased attention on patient psychological aspects after treatment, particularly those related to sexual function.

Preserving sexual function is of paramount concern for many men candidates for radical prostatectomy8,9 and satisfaction with sexual function remains one of the contributing factors having the greatest impact on the psychological aspects of prostate cancer survivors.10,11

Wide variations in recovery rates of erectile function after RP range from less than 20% to more than 65%, and approximately 60% of men rate the condition as distressing.12,13 The most important prognostic factors for the return of potency after surgical treatment are preservation of both neurovascular nerve bundles, being younger, and having good sexual function before surgery.14,15

Several studies have shown that treatment for erectile dysfunction (ED) following RP is associated with improved sexual function.16–18 Early initiation of available treatments after RP, such as phosphodiesterase-5 (PDE-5) inhibitors
and intracavernosal injection, may improve the speed and degree of recovery of erectile function.16

Every domain of health must be measured in two dimensions: one objective, evaluating the functioning or health condition, and the other subjective, evaluating the individual’s perception and expectation of his health condition. Thus, since expectations regarding health and the ability to accept limitations and discomfort are influenced by each individual’s perception of health and personal life satisfaction, two people in the same health condition may have different qualities of life19 and it is in the domain of psychology.

Sexual function enfolds sexual desire, penile ability for erection, achievement of orgasm, frequency of intercourse, and other aspects. At the age of 50–80 years, sexual desire, erection capacity, and orgasm decrease in 50–70% of men, causing enormous distress for them and their sexual partners.10 While sexual functioning declines with age, some interventions accelerate and worsen sexual impairment. In this regard, the reported impact of diminished sexual function after surgical treatment for prostate cancer varies significantly.10,12,19

The field of ED treatment has expanded rapidly with the advent of oral drug therapy.10 Normal sexual function is a biopsychological process and relies on the coordination of psychological, endocrine, vascular, and neurological factors. Research in the psychological field is somewhat limited, especially pertaining to sexual behavior research. The dilemma remains that medical research, more specifically pharmaceutical research, dominates the field.10,12

The present study showed that combined medical (Tadalafil) and psychotherapy treatments did not impact relationship and intimacy with partner, supporting the rational that a more effective treatment should involve the patient’s wife.

Erectile function recovery rates after radical prostatectomy vary greatly based on a number of factors, such as erectile dysfunction definition, data acquisition means, time-point post-surgery, and population studied.

RP adversely affects not only erectile and orgasmic functions but also sexual desire, self-esteem, and masculinity despite treatments, and candidates for RP should be aware not only of ED but also of other postoperative sexual dysfunctions. In a study with 63 patients, it was observed that after RP, 74.6% of patients used ED treatments; 52.4% of patients reported lower sexual desire, and 79.4% related reduced intercourse frequency; orgasm was modified in most patients: 39.7% described loss of orgasm, and 38.1% reported decreased intensity. Among the most sexually motivated patients, 76.0% reported loss of masculine identity, 52% loss of self-esteem, and 36.0% anxiety about performance.23

These important aspects denounce the importance of partner intervention and add to the results of the present study. The patient’s wife should be prepared for the impact of an intervention such as RP once limiting the field of treatment action to the patient reduces its impact.

In another study, it was observed that sexual function decreased (p < 0.001) after treatment with radical prostatectomy – men reported feeling less masculine, having less sexual enjoyment, difficulty in getting and maintaining an erection, and discomfort when being sexually intimidated after surgery.24 Supporting the notion that when the partner sexually challenges the patient, both should be ready for the new reality.

In a study with 183 men treated with RP who completed inventories including Erectile Function Domain and Sexual Bother preoperatively and at 12 and 24 months, sexual bother increases post-RP, even in men with “good” erections postoperatively, and it includes shame, embarrassment, and a reduction in general life happiness. Because men do not seem to “adjust” to ED, referral or evaluation should occur early in this population.25 Furthermore, an arranged and more understanding partner would certainly positively impact this scenario.

While the benefit of patient’s partner assessment is to be better explored due to the scarcity of this methodological scope, psychotherapy was shown to improve results in this scenario.

A systematic review was conducted to evaluate the effectiveness of psychosocial interventions for the treatment of ED compared to oral drugs, local injection, vacuum devices and other psychosocial interventions that may include any psycho-educative methods and psychotherapy, or both, of any kind.21

Eleven randomized controlled trials involving 398 men met the inclusion criteria. There was evidence that group psychotherapy may improve erectile function compared to the control group (waiting list, no treatment). The outcome “persistence of ED” found significant differences between the group therapy and the control group (RR = 0.40, 95% CI 0.17–0.98). Treatment response varied between patient subgroups, but the focused sex-group therapy showed greater efficacy than the control group (no treatment).21

In the meta-analysis that compared group therapy plus sildenafil citrate versus sildenafil alone, men randomized to receive group therapy plus sildenafil showed significant improvement of successful intercourse (RR 0.46, 95% CI 0.24–0.88), and they were less likely than those receiving only sildenafil to drop out (RR 0.29, 95% CI 0.09–0.93). Group psychotherapy also significantly improved ED compared to sildenafil citrate alone.21

Another study examined the effectiveness of a drug-only (Sildenafil) versus combined treatment approach (Sildenafil plus sex therapy) on erectile function as well as other domains of sexual function and cognition, couple intimacy and adaptation, and treatment satisfaction. Despite limitations, study findings provide empirical support for the effectiveness and satisfaction with the combined treatment approach for treating men with ED of mixed etiology.26

A counseling intervention aimed at improving levels of sexual satisfaction and increasing successful utilization of medical treatment for ED was developed and pilot tested for both the survivor of prostate carcinoma and his partner. Participants completing the intervention demonstrated improvement in male overall distress (p < 0.01), male global sexual function (p < 0.0001), and female global sexual function (p < 0.05) at 3-month follow-up, but regression toward baseline was noted at 6-month follow-up. However, utilization of ED treatments increased from 31% at
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the time of study entry to 49% at the 6-month follow-up (p < 0.003).27

As discussed above, treatment of prostate cancer by means of radical prostatectomy adversely affected not only erectile and orgasmic functions but also sexual desire, self-esteem, and masculinity. Our study, in accordance with several other publications, showed that a combination of support psychotherapy and oral medication (PDE-5 inhibitor) is effective in improving the ED of patients submitted to radical prostatectomy.

However, it is of concern that most studies did not focus on the couple for the interventions and evaluations and, in this regard, the most important and alarming data showed in the present study is that treating the patient is not enough to overcome fundamental aspects of sexual function such as “relationship with partner” and “intimacy with partner” that are significantly affected by prostate cancer treatment.

Finally, although with limitations (absence of control group), our study is prospective and goes beyond erectile function, providing support for the rational that psychotherapy allowed the identification of important psychological and spouse related factors in the post radical prostatectomy erectile dysfunction rehabilitation.

Conclusions

A holistic patient care including a more complete ED rehabilitation includes psychotherapy with a positive correlation between erectile function and treatment exposition through increased self-esteem, greater ease in expressing and identifying the feelings, as well as a better management of their own selves and increased satisfaction with sex life. Also, psychotherapy allowed for the identification of important spouse related factors in this scenario.

Conflict of interest

The authors declare that they have no conflict of interest.

References