Do Lower Urinary Tract Symptoms Suggestive of Benign Prostatic Hyperplasia Affect Sexual Functions?

Benign Prostat Hiperplazisine Bağlı Alt Üriner Sistem Yakınmaları Cinsel Fonksiyonları Etkiler mi?

AÜSS Cinsel Fonksiyonları Etkiliyor mu? / Do Luts Affect Sexual Functions?

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Özet

Amaç: Alt üriner sistem yakınmalarının cinsel fonksiyonlar üzerine muhtemel etkilerini değerlendirmektir. Gereç ve Yöntem: Çalışmaya 219 hasta katılmıştır. Çalışmayı 177 hasta tamamlamıştır. Tüm hastalar, Türkçe'leştirilmiş IPSS ve ICS-sex formunu doldurmuşlardır. Hastalar semptom skoru, hayat kalitesi skoru, yaş vb.'lerine göre gruplanarak analizleri yapılmıştır. Bulgular: Çalışmada, yaş arttıkça erektil disfonksiyon oranının da anlamlı olarak arttığı saptandı (p=0.00). Erektil disfonksiyon, ciddi alt üriner sistem yakınması olanlarda, diğerlerine göre anlamlı olarak daha yüksek görüldü (p=0.03). Hastalar hayat kalitesi skorlarına göre gruplandıklarında, erektil ve ejakulator fonksiyonların, hayat kalitesi skoru arttıkça anlamlı olarak arttığı tespit edildi (sırasıyla p=0.008, p=0.01). Ejakulasyon sırasında ağrının, irritatif şikayetler ve noktüri arttıkça anlamlı olarak arttığı görüldü (p=0.002 ve p=0.029). Tartışma: Çalışma göstermiştir ki BPH (Benign prostat hiperplazisi) olan hastalarda alt üriner sistem yakınmalarının cinsel fonksiyonlar üzerine belirgin bir etkisi vardır.

Anahtar Kelimeler

Alt Üriner Sistem Semptomları; Benign Prostatik Hiperplazi; Cinsel Fonksiyon Bozukluğu; Fizyolojik

Abstract

Aim: To evaluate the possible effect of lower urinary tract symptoms on sexual functions. Material and Method: 219 patients were included in this study. Of the 177 patients completed the study. All the patients filled Turkish validated form of IPSS and ICS-sex questionnaire. The patients were grouped due to the symptom scores, quality of life scores, age, etc. Results: The rate of erectile dysfunction significantly raised as the age raised (p=0.00). Erectile dysfunction rate was significantly higher in the group those have severe urinary symptoms (p=0.03). Patients were grouped as life quality score and the rates of erectile and ejaculatory functions significantly raised as life quality score became higher (p=0.008, p=0.01, respectively). Pain during ejaculation rates significantly raised as the irritative symptoms scores and nocturia raised (p=0.002 and p=0.029, respectively). Discussion: Study demonstrated that the severity of LUTS (lower urinary tract symptoms) has a significant impact on sexual functions in patients with BPH.

Keywords

Lower Urinary Tract Symptoms; Benign Prostatic Hyperplasia; Sexual Dysfunction; Physiological

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Introduction

Sexual dysfunction and lower urinary tract symptoms are common problems in elderly men. The severity of lower urinary tract symptoms affect life quality and limits the social and sexual satisfaction. Lower urinary tract symptoms not only affect the sleep period, anxiety and social life but also sexual functions and satisfaction.

Several studies using international prostate symptom score indicates the prevalance of urinary tract symptoms in men older than 50 varies between 20% - 50%[1].

Most studies dedicate that benign prostatic hyperplasia and sexual dysfunction are common problems in elderly men. Although it is revealed that the size of prostate and uroflowmetry studies are not related with erectile dysfunction[2], the hormonal or pharmacological treatment of lower urinary tract symptoms may improve sexual dysfunctions[3-5]. To evaluate the effect of urinary symptoms on sexual dysfunctions separately may be more beneficial.

In this study potential effect of lower urinary tract symptoms suggestive of benign prostatic hyperplasia (BPH) on sexual functions was evaluated.

Material and Method

290 patients with LUTS (lower urinary tract symptoms) (nocturia, frequency, hesitancy, loss of force and decrease of caliber of the stream, acute or chronic urinary retention, intermittancy etc.) included in the study. 71 patients were excluded due to prostatic adenocarsinoma, prostatic operations, medical treatment in the past, biopsy of prostate, diabetes mellitus, neurological dysfunctions and failure to complete the test results (Table 1).

Table 1. Exclusion criterias

1. Prostatic surgery in the past,
2. Prostatic carcinoma,
3. Systemic diseases,
4. Biopsy of prostate,
5. Medical treatment that may affect the results,
6. Neurological dysfunctions,
7. Urethral stricture,
8. Uncomplete results of laboratory findings,
9. Urinary infection.

Table 2. Patient Characteristics

Age	59.06 ± 7.98 years
Volume of the prostate	35.57 ± 14.66 cc.
Maximum flow rate	13.01 ± 3.05 ml/sn.
IPSS	13.68 ± 6.57
Life quality score	2.42 ± 1.44

The patients were included in the study by detailed explanations and permission of the patients were taken. Physical examinations were performed. The patients were evaluated for BPH with serum prostatic antigen (PSA) level, digital rectal examination, uroflowmetry, measurements of prostatic volume with transrectal ultrasonography and measurement of residual urine volume. Symptoms were assessed using the International Prostate Symptom Score (IPSS) and sexual functions using International Continence Society sex questionnaire (ICSsex) items concerned with erectile stiffness, ejaculatory volume, pain or discomfort on ejaculation, whether sex life was spoilt by urinary symptoms and their bothersomeness.

The patients those were included in the study and agreed to receive medical treatment filled International Continence Society sex questionnaire (ICSsex).

All datas were coded numerically and divided into groups. Patients were divided into three groups due to IPSS: Total score of 0-7 named as 'mildly sypmtomatic', total score of 8-18 named as 'moderately symptomatic', total score of 19-35 named as 'severely symptomatic'. Due to life quality score, total score of 0-2 named as 'mild', score of 3 named as 'moderate', total score of 4-6 named as 'severe'. Urinary symptoms were grouped as 'irritative syptoms' and 'obstructive symptoms'. Nocturia was grouped independently. The groups for irritative symptoms were: 0-7 'mild', 8-14 'moderate', 15-20 'severe' and obstructive symptoms: 0-5 'mild', 6-10 'moderate', 11-15 'severe'. Nocturia alone was grouped as 0-1 (group 1), 2-3 (group 2), ≥4 (group 3). Patients were grouped according to age. Group 1: age 40-49, group 2: 50-59, group 3: ≥60. Groups were also divided according to prostate volume: ≤40 group 1, ≥40 group 2. The patients those had maximum flow rate of 10 ml/sn and less than 10 ml/sn were group 1 and more than 10 ml/sn were group 2.

Groups were divided due to the numerical datas. Pearson correlation analysis was performed to evaluate the correlation between datas. Ki-square test was performed to evaluate the difference between the groups.

Results

Sexual dysfunctions of the patients suffered from lower urinary tract symptoms was 87%. When the patient had one or more of the followings such as erectile dysfunction, ejaculatory dysfunction or pain during ejaculation it was accepted as sexual dysfunction.

The rate of erectile dysfunction, ejaculatory dysfunction and pain during ejaculation among the patients complaining about lower urinary tract symptoms were 70.7%, 43.4%, 32.8%, respectively. Besides, 72.1% of the patients mentioned that their sexual life was spoilt by urinary tract symptoms and 63.4 % of the patients complained about their life quality affected by spoilt sexual life because of LUTS. 62% of the patients those sex life was spoilt by LUTS were in the age group of 40-49.

There was a significant correlation between life quality score and the score of bothersomeness about erectile dysfunction and ejaculatory dysfunction (p=0.00, r=0.32, p=0.00, r=0.2, respectively). The correlation between life quality scores and erectile dysfunction was also significant (p=0.02, r=0.16) but the frequency of erectile dysfunction did not significantly correlate with IPSS score, prostate volume, maximum flow rate and residual volume (p>0.05). Besides, erectile dysfunction was significantly correlated with ejaculatory dysfunction and pain during ejaculation (p=0.00, r=0.5, p=0.00, r=0.31, respectively). As the life quality score and IPSS score increased, the frequency of sex life spoilt by LUTS increased significantly (p=0.00, r=0.16 ve p=0.017, r=0.24, respectively).

Erectile dysfunction rate worsened significantly as the age in-

creased (p=0.00). There was no significant relation between age and the other sexual dysfunctions.

Patients were divided into three groups due to the IPSS scores. 0-7 score was defined as 'mild symptoms', 8-18 'moderate symptoms', 19-35 'severe symptoms' (Table 3). There was no significant difference between mild symptoms group and moderate symptoms group compared for sexual dysfunctions but erectile dysfunction rate was significantly higher in the severe symptoms group (p=0.03).

Table 3. Number of patients in age groups divided according to IPSS groups

	Age 40-49	Age 50-59	Age ≥60
IPSS 0-7 (Mild)	5	13	28
IPSS 8-19(Moderate)	8	35	88
IPSS 20-35 (Severe)	1	14	27

There was a significant difference for pain during ejaculation between three groups as the symptoms were divided as 'irritative' (p=0.002). The pain during ejaculation increased as the severity of the symptoms rised. There was significant difference between the three groups for ejaculatory dysfunction as the patients were divided according to the obstructive symptoms (p=0.04), but there was no significant difference for the other sexual dysfunctions (p>0.05).

As the patients were divided due to nocturia it was determined that pain during ejaculation was significantly higher as the number of nocturia increased (p=0.04).

Due to life quality scores there was significant difference between the three groups for erectile and ejaculatory dysfunctions (p=0.008, p=0.01). Erectile and ejaculatory dysfunction rates increased as the life quality score increased.

Discussion

Several studies suggest that both urinary and sexual problems increase as the patients get older. Although Jacobsen et al.[6] mentioned that BPH had no effect on sexual functions. Larson et al.[7] claimed that BPH was related to sexual dysfunctions and sexual functions might improve with the treatment of BPH, and it is also mentioned that evaluation of sexual functions might be helpful to examine the efficacy of BPH treatment. Besides, Gacci et al.[8] claimed that sexual desire and sexual satisfaction rises after prostatectomy.

Sexual functions and sexual satisfaction are included in the most effective factors for life quality. In recent years sexual functions are investigated while evaluating the life quality of the patients complaining from LUTS suggestive of BPH. In addition, the effects of BPH treatment on sexual functions are also interested by the researchers. Modern treatment options of BPH have decreased complications and side effects on sexual functions. A significant decrease is observed in erectile dysfunction, loss of libido and sexual unsatisfaction after prostatic surgery in last years. Alpha blockers also have consequential roles for treatment of BPH. It is known that alpha blockers have direct and independent effect on erectile function by relaxating smooth muscles[9,10]. Besides, norepinephrin makes corpus cavernosum and penile muscles contract by stimulation of two or possibly three subtypes of alpha-1 receptor[11].

There are many explanations about the relation between sexual functions and urinary symptoms. The most validated idea is both of them are two processes those occur in older ages. But it was determined in some studies that the relation do not depend on age[12-15]. One of the two valid theory is: the relation depend on pathophysological base and it is under control of symphatic nerve system. The other theory is: the relation is physological and urinary symptoms deprave sexual functions [12-15].

The exact mechanism of relation between sexual dysfunction and urinary symptoms is unknown. In an experimental bladder outlet obstruction in rabbits, endothelin-B receptor downregulation in penil cavernous tissue was determined and this leads to vasoconstruction and structural changes in corpus cavernosum[16]. Another reason can be impression of prostate to adjacent nerves and vessels. The possible physycological stres due to severe urinary symptoms may also deprave sexual functions. It is known that alpha blocker therapy does not decrease prostate volume. The improvement of erectile dysfunction without a decrease in prostate volume confirms the claim that there is no relationship between sexual functions and prostate volume. In this study only related dysfunction with obstructive symptoms was ejaculatory dysfunction.

Determination of increase especially in erectile dysfunction rates gives the opinion that both distinct situations are seen in older ages. But 72.6% of the participants that had erectile disfunction did not accept this situation inevitable in older ages and suffered from erectile disfunction. Additionally, 72.1% of the participants explicited that their sex life was spoilt by urinary symptoms. Lukacs et al. determined that except the patients over 70 years old, improvement of sexual functions after the treatment of urinary symptoms was better in the group that had severe urinary symptoms than the group that had moderate symptoms[17].

It was established in a community study in France with a group of 50-80 years old patients that there was a reverse relation between sexual functions and the severity of urinary symptoms[10]. However the urinary symptoms were not grouped as irritative or obstructive symptoms and most effective symptom group was not evaluated in that study. It was also determined that erectile dysfunction rates increased as symptom scores increased.

Another parameter that significantly related with the sexual dysfunction was IPSS score groups. The patients with severe urinary symptoms have greater risk for sexual dysfunctions. Moreover, relation between two symptom groups depend not only on age but also on diferentiation of hormonal activity, vascular factors, dysfunction of central or peripheral nerves and dysfunction of receptor or neurotransmitter activity.

Conclusions

Sexual functions may be affected by lower urinary tract sypmtoms. The grade of this effect is related with age and the severity of lower urinary tract symptoms.

Competing interests

The authors declare that they have no competing interests.

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