

Bothersomeness About Side Effects due to Medical Treatment of Benign Prostatic Hyperplasia

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Abstract: *Aim and Scope: In this study we evaluated the possible side effects of treatment for lower urinary tract symptoms, and the importance of side effects of two different medicines for the treatment of LUTS suggestive of BPH. Materials and Methods: 219 patients with lower urinary tract symptoms (LUTS) were included in this study. 177 of them completed 3 months treatment with alpha blockers. All the patients were asked for symptom scores, life quality and side effects. All side effects are asked for any bothersomeness. Results: The rate of erectile dysfunction, anejaculation and loss of libido among the patients after 3 months treatment were 17.4%, 34.6%, 17.8%, respectively. There was a significant correlation between life quality score and the score of bothersomeness about erectile dysfunction and. The correlation between life quality scores and erectile dysfunction was also significant. Erectile dysfunction rate rised significantly as the age increased. There was no significant relation between age and the other sexual side effects. Prostate volume and maximum flow rate were not related with the sexual side effects. Conclusions: Side effects of medical treatments should be estimated and the patients should be warned before treatment. Substituting the medicines may be helpful for side effects.*

Keywords: Benign Prostatic Hyperplasia, Sexual Side Effects

1. 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^{1,2}.

It is known that the major cause of lower urinary tract symptoms is benign prostatic hyperplasia. These symptoms can be divided into two as irritative and obstructive symptoms. Most studies using international prostate symptom score indicates the prevalence of urinary tract symptoms in men older than 50 varies between 20% - 50%. Although there are several results with several studies, it is known that sexual dysfunction is common problem among elderly men^{2,3,4,5}.

Lower urinary tract symptoms are not only physical health problem, but also a social problem that affects the patients way of life. Sexual functions can easily be affected by lower urinary tract symptoms as a part of social life⁶. Unfortunately, treatment modalities may also cause sexual problems due to side effects. Not only surgical procedures but also medical treatments are being reported to cause sexual side effects⁷.

Sexual activity of men continues for all life. However the frequency of sexual activity and satisfaction decreases as the patients get older. It must be explained if sexual dysfunction and lower urinary tract symptoms are two independent diseases that affect each other or two diseases of most elderly men. On the other hand treatment modalities have also spesific side effects. Most bothering side effects are anejaculation, erectile dysfunction and loss of libido².

The subjective evaluation of the patients for the IPSS and sexual function questionnaire may be a limitation for clinicians. Additionally bothering of the side effects due to

the treatment may also differs from men to men. This may affect the perspective of any treatment modality.

One of the most important item for the phsician to decide the medicine is the feedback from the previous patients. More complaints about side effects of the treatment may cause the less decision about the stated medicine.

In this study we evaluated the possible side effects of treatment for lower urinary tract symptoms, and the importance of side effects of two different medicines for the treatment of LUTS suggestive of BPH.

2. Materials and Methods

In this prospective study all the datas of 290 patients with LUTS those undergone medical treatment at least for 3 months were investigated to include in this study. 71 patients were excluded because of prostatic adenocarcinoma, prostatic operations, medical treatment in the past, biopsy of prostate, diabetes mellitus, neurological dysfunctions and failure to complete the test results (Table 3). 177 of 219 patients were detected to complete the medical treatment of BPH 3 months along. The characteristics of the patients were shown on table 4.

Table III 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.

The patients were included in the study by detailed explanations and permission of the patients were taken. Physical examinations were carried out. The evaluation for

BPH with serum prostatic antigen (PSA) level, digital rectal examination, uroflowmetry, measurements of prostatic volume and residual volume with transrectal ultrasonography was detected. 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.

Table IV 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 those were included in the study and those used medical treatment filled International Continence Society sex questionnaire (ICSsex) before treatment and they were divided into two groups. One group received 0,4 mg. tamsulosine daily (n:90), and the other group received 10 mg. alfuzosin daily(n:87).

All the physical and laboratory examinations and questionnaires before and after treatment were investigated. The notes for side effects were evaluated and noted. All patients were already asked about sexual side effects of the treatments. The side effects were: anejaculation and erectile dysfunction. All the answers were coded whether these side effects bother them or not (the answers were only 'yes' or 'no')

All datas were coded numerically and divided into groups. According to IPSS the patients were divided into three groups: Total score of 0-7 named as 'mildly symptomatic', total score of 8-18 named as 'moderately symptomatic', total score of 19-35 named as 'severely symptomatic'. According 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'. 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 as numerical datas. Pearson correlation analysis was performed to evaluate the correlation between datas. Paired sample t-test was performed to analyse the variables before and after medical therapy. Ki-square test was performed to evaluate the difference between the groups. All the patients were asked for sexual side effects as erectile dysfunction, anejaculation and loss of libido.

3. Results

177 of the 219 patients those received alpha blocker therapy for 3 months and answered the IPSS and sexual functions questionnaires after 3 months therapy. The answers were evaluated for bothersomeness about sexual side effects.

The rate of erectile dysfunction, anejaculation and loss of libido among the patients after 3 months treatment were 17.4%, 34.6%, 17.8%, respectively. For anejaculation there was a significant difference between tamsulosin and alfuzosin group ($p < 0.05$).

There was a significant correlation between life quality score and the score of bothersomeness about erectile dysfunction and anejaculation ($p = 0.00$, $r = 0.32$, $p = 0.00$, $r = 0.2$, 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 ($p > 0.05$) independent from the medicine taken. Erectile dysfunction rate rised significantly as the age increased ($p = 0.00$). There was no significant relation between age and the other sexual side effects.

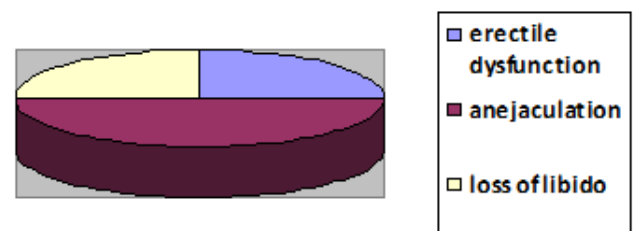
Prostate volume and maximum flow rate were not related with the sexual side effects.

The anejaculation rate was significantly higher in tamsulosin group but bothersomeness about anejaculation was not statistically significant between the patients who suffered anejaculation or not.

Patients were divided into three groups according to the IPSS scores. 0-7 score was defined as 'mild symptoms', 8-18 'moderate symptoms', 19-35 'severe symptoms' (Table V). There was no significant difference between mild symptoms group and moderate symptoms group compared for sexual side effects but loss of libido rate was significantly higher in the severe symptoms group ($p = 0.03$).

%65 of the patients who have severe symptoms on IPSS, mentioned to lost their libido but only %21 of them bother from this side effect.

Table V. Distribution of sexual side effects



4. Discussion

Lower urinary tract symptoms suggestive of BPH and sexual dysfunctions were two common complaints among

elderly men in urology practice. These complaints are related with psychological, cultural and economic status of the patient. Sexual dysfunctions side effect among the patients using alpha blockers for LUTS were interested by most researchers. Sexual functions and sexual satisfaction are included in the most effective factors that affect life quality. Additionally, the side effects of BPH treatment on sexual functions are also interested by the researchers. A significant decrease is observed in erectile dysfunction, loss of libido and sexual unsatisfaction after prostatic surgery in last years. Alpha blockers also have taken important roles in treatment of BPH. Most studies determine that different alpha blockers have different (positive or negative) effects on sexual functions. It is known that alpha blockers have direct and independent effect on erectile function by relaxing smooth muscles^{58,59}. Besides, norepinephrin contract corpus cavernosum and penile muscles by stimulation of two or possibly three subtypes of alpha-1 receptor⁶⁰. Despite these some patients are spesifically bothering from the side effects and they strongly mention that they did not have such these sexual problems before medical treatment.

There are many explanations about the relation between sexual functions and urinary symptoms. But it was determined in some studies that the relation do not depend on age^{61,62,63,64}. One of the two valid theory is: the relation depend on pathophysiological base and it is under control of symphatic nerve system. The other theory is: the relation is physiological and urinary symptoms spoil sexual functions^{61,62,63,64}.

The exact mechanism of relation between sexual dysfunction and urinary symptoms is unknown. Related with bladder outlet obstruction, increased noradrenergic activity can affect erectile and ejaculatory functions. In an experimental bladder outlet obstruction in rabbits, endothelin-B receptor downregulation in penil cavernous tissue was determined and this led to vasocontruction and structural changes in corpus cavernosum⁶⁵. Another reason of relation can be impression of prostate to adjacent nerves and vessels. The possible physycological stres due to severe urinary symptoms can also spoil sexual functions. In this study there was no relationship between prostate volume and sexual side effects. That means the relationship between urinary symptoms and erectile functions is not depended on prostate volume. In this study only related sexual side effect was obstructive symptoms and anejaculation.

In our study it was also determined that erectile dysfunction side effect rates increased as symptom scores increased.

In our study the urinary symptoms were grouped as irritative and obstructive so no relation was determined between neither irritative nor obstructive symptoms and erectile dysfunction side effect. Irritative symptoms and the number of nocturia affected the loss of libido. In fact it is natural that nocturia and irritative sympmtoms can be related with loss of libido because of lack of sleep and unhappy situation of urination. Perhaps the patients with

higher irritative symptoms may be more sensitive and can be affected by these side effects easily.

After medical therapy the most frequent side effects were anejaculation, loss of libido and erectile dysfunction. We found out that relieving of lower urinary tract symptoms is more important than the side effects for the patients particularly with severe symptoms.

Another interesting finding about the study; the difference between two drugs about loss of libido side effect was not statistically significant. This leads us to think that there was not a direct effect on sexual functions.

The patients with severe urinary symptoms have greater risk for sexual side effects than the patients with mild or moderate symptoms. 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.

5. Conclusion

Lower urinary symptoms suggestive of BPH may affect sexual functions but medical treatments have also particular side effects on sexual functions. This may vary from patient to patient how bothering they are. Side effects of medical treatments should be estimated and the patients should be warned before treatment. Substuting the medicines may be helpful for side effects.

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