

Original Research Article

Treatment of psychological morbidity secondary to benign prostatic hyperplasia: a comparative study

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ABSTRACT

Background: Authors tend to compare the medical treatment of benign prostatic hyperplasia with the surgical option regarding lower urinary tract symptoms (LUTS) and related psychological morbidity.

Methods: A retrospective study of (1614) patients who were managed by either transurethral resection of prostate (TURP) or medical treatment for lower urinary tract symptoms secondary to benign prostatic hyperplasia (BPH) over a period of 5 years between (Sep. 2013 and Sep. 2018) carried out in Prince Hussein Urology Center at Jordanian Royal Medical Services. Patients were classified into two groups, group1 (807 patients) who get a medical option and group 2 (807 patients who underwent TURPs. A comparison between both groups according to the effect of minimizing the psychological morbidities was done over a period of 1-year follow-up after reviewing the patient's medical records.

Results: Ages of the patients for group1 and 2 were (47-68 years), (49-73 years), respectively. There were significant differences at the level of depression, anxiety and psychiatric morbidity pre-treatment between both groups p-value <0.05, and no significant differences after treatment in group 1 regarding these levels, p-value>0.05, but significant differences in the level of improvement after treatment between both groups and in group 2 were found, p-value <0.05.

Conclusions: The severity of LUTS and psychological morbidity have a positive relationship and were higher in the pretreatment surgical group, but the effect of TURP was superior to the medical group in the management of this morbidity and its causative (LUTS).

Keywords: Benign prostatic hyperplasia, Lower urinary tract symptoms, Medical treatment, Psychological morbidity, Transurethral resection of prostate

INTRODUCTION

The prevalence of benign prostatic hyperplasia (BPH) is rising with the advancing age.^{1,2} BPH accounts from 50 to 85% in men above 50 years of age and yearly 250,000 patients in USA need hospitalization for the treatment of

the complications of this disease.³ These complications include a wide variety of symptoms and events such as acute urinary retention, hematuria and urinary tract infections which in total we called lower urinary tract symptoms (LUTS). The impact of these (LUTS) in patients' quality of life (QoL) is significant and bothersome.^{4,5} To measure this effect on QoL, some

studies proved the validity and reliability of International Continence Society Benign Prostatic Hyperplasia study quality-of-life (ICSQoL) instrument, while on the other hand, the American Urological Association Symptom Index or International Prostatic Symptom Score (I-PSS) have been used to investigate the relationship between LUTS severity and health related quality of life.^{6,7} Because of the psychological morbidity (anxiety, depression and psychiatric disorders) that related to the impact of QoL by the severity of LUTS, the usefulness of these questions' sets is to put a cut-point on symptom index to differentiate individuals whom psychological personality was affected by decrease QoL due to LUTS from whom psychological personality was not decremented.⁸In this study, authors will concentrate on the options of the treatment of these LUTS by BPH medical and surgical (trans urethral resection of the prostate (TURP)) techniques. Also, the comparison between both methods will be made to evaluate the best option for decreasing LUTS severity and related psychological morbidity.

METHODS

Enrollment of 1614 patients in this retrospective study was done. These patients were treated in Prince Hussein Urology Center at Royal Medical Services of Jordan for a 5-years period between (23 September 2013 and 12 September 2018) by either medical treatment of LUTS due to BPH or TURP, and follow-up period of these treatment options was 1 year. Medical records of these patients were reviewed by our assistants in the same Center and the records were divided into two groups: group 1 (patients were treated by medical method) and group 2 (patients were treated by surgical technique).

Ages of these patients were ranging from (47 to 73) years old, mean age=60.5 years and standard deviation (SD)=7.446 years.

Inclusion criteria were history of LUTS and psychological morbidity more than 6 months, normal coagulation profile, normal renal function tests, hypertensive patients and ages above 47 years. While the exclusion criteria were negative urine cultures, associated other urinary tract malignancies such as (renal, bladder and prostate) and patients with long standing psychiatric disorders from childhood or due to drug abuse. Medical treatment included alfa blockers (doxazosin or tamsulosin). Whereas TURPs were done while the patients anesthetized by spinal anesthesia or general anesthesia if spinal method failed or patient didn't tolerate it, then after scrubbing the patient while he is in the lithotomy position, diagnostic cystoscopy was done by 17 FR cystoscope and thereafter resection of the enlarged prostate by 24-27 FR sized resectoscopes not more than one hour of irrigation during resection by 1.5 % glycine solution, then finally three ways Foley catheter was placed for continuous irrigation post each operation by normal saline 0.9% irrigate solution.

Authors analyzed the psychological disorders in all patients by a questionnaire sets as following:

- Degree of depression was measured by the Beck Depression Inventory which consists of 21 items that are rated on a 4-point scale (0-3) in terms of severity. So, higher score means higher degree of depression.⁹
- The anxiety was divided into two concepts (transient state anxiety=(A-State) and dispositional trait anxiety=(A-Trait) by the State Trait Anxiety Inventory (STAI) which contains 20 statements that describing how the patients feels at any particular moment, and in general.¹⁰
- The psychiatric morbidity was screened by the GHQ-12 that rated on the Likert scales (0-3) and the total scores were obtained by summing the 12-item responses, giving a range of 0-36, where 0 indicated the best and 36 the worst mental health status.¹¹

Statistical analysis

Most of the data were presented in the form of a tabulated comparative statistics, the numbers and the percentages were generated from the categorical data by using SPSS software version 24 and the Comparison between these categorical data (N (%)) was done by chi-square test. p-value < 0.05 was considered statistically significant.

Ethical committee approval was gained from this royal medical services institution for publication of this study.

RESULTS

Total number of the patients was 1614, they were divided into two groups; each group contains 807 patients. Their ages were ranging from (47 to 73) years; mean age=60.5 years and standard deviation (SD)=7.446 years, group1 (47-68 years), group2 (49-73 years).

The data that were collected from patients' files retrospectively were analyzed and authors found the following results:

There were significant differences between both groups regarding the patients' ages p-value <0.05 (Table 1).

Table 1: The demographic of both groups with the estimated numbers, percentages and p-values.

Variables N [®] \ (%) [©]	Group 1	Group 2	p-value
Age <50	50 (6.2%)	23 (2.9%)	0.043
Age 50-59	412 (51.1%)	219 (27.1%)	0.012
Age 60-69	198 (24.5%)	204 (25.3%)	0.009
Age ≥70	147 (18.2%)	361 (44.7%)	0.026

[®] numbers of the patients, [©] percentages according to the total patients' number of each group.

Table 2: The categorical data of both groups included the numbers, percentages, mean values, standard deviation (SD) and p-values.

Variables		Group 1	Group 2	p-values	
Pretreatment	BDI scores n® (%©)	0-9	439 (54.4%)	109 (13.5%)	0.028
		10-18	215 (26.7%)	352 (43.6%)	0.005
		19-29	146 (18%)	328 (40.7%)	0.031
		30-36	7 (0.9%)	18 (2.2%)	0.047
	Anxiety level (STAI) mean (±SD)	State	248.5 (±23.7)	649.3 (±32.5)	0.001
		Trait	268.8 (±17.4)	652.4 (±39.06)	0.025
		Total	517.3 (±41.1)	1301.7 (±71.56)	0.036
	Psychiatric morbidity	Mean	67.25	201.75	0.014
		SD	±11.28	±18.04	
	Posttreatment	BDI scores n® (%©)	0-9	461 (57.1%)	387 (48%)
10-18			208 (25.8%)	234 (29%)	0.019
19-29			136 (16.85%)	185 (22.9%)	0.008
30-36			2 (0.25%)	1 (0.1%)	0.046
Anxiety level (STAI) mean (±SD)		State	243.2 (±20.4)	369.7 (±21.2)	0.039
		Trait	262.7 (±16.03)	413.02 (±28.16)	0.016
		Total	505.9 (±36.43)	782.72 (±49.36)	0.002
Psychiatric morbidity		Mean	66.74	161.4	0.041
		SD	±10.58	±6.014	

® numbers of the patients, © percentages according to the total patients' number of each group.

There were significant differences regarding the level of depression, anxiety and psychiatric morbidity pre-treatment between both groups p-value <0.05 (group 2 (TURP) has the highest scores of these levels), and no significant differences after treatment in group1 regarding these levels, p-value >0.05, but in total scores (BDI, STAI and GHQ-12) there were significant differences in the level of improvement after treatment between both groups and in group 2, p-value <0.05 (higher improvement of depression, anxiety and psychiatric morbidity levels in group 2). Table 2 included all results.

DISCUSSION

As authors mentioned in the results above, there was a significant number of BPH patients who suffered from LUTS and therefore psychological morbidity which could affect the quality of life. These LUTS are increasing with ageing (most of our patients are above 50 years of age).

In group 1 (medical treatment of BPH) there were no significant or slight changes of psychological morbidities due to a lower degree of LUTS severity and inconsequence a lower level of psychological morbidities. On the opposite hand, in group 2, the severity of LUTS pretreatment was higher and therefore the psychological morbidities, which improves the morbidities posttreatment significantly. So, this guide us to the positive relationship between the severity of LUTS and psychological morbidity, and also the higher effect of TURP in decreasing these LUTS and the resultant psychological effects and impaired quality of life.

In 2015, Dunphy and colleagues reported that there is a relationship between LUTS secondary to BPH and depression which need additional research to determine the nature of this relationship.¹² This nature was proved by Barbara Pietrzyk et al. in 2015 and in addition to the relationship of LUTS with anxiety and somatization by Jun Sung Koh and associates.^{13,14}

Age related LUTS\BPH was mentioned by Weiyu Zhang et al. while beside the age related LUTS, the role of the medical management of BPH and decreasing the resultant LUTS were also reported by Farhad Fakhruddin and colleagues.^{15,16}

Improvement of LUTS and inconsequence depression, anxiety and psychiatric morbidity was documented for both medical and surgical treatment by Kia Fatt Quek et al. (in the contrary of our study).¹⁷

Finally, Kia Fatt Quek et al. in another study, supported our thoughts about the superiority of TURP in minimizing psychological morbidities in patients with LUTS secondary to BPH.¹⁸

CONCLUSION

There is a positive relationship between LUTS secondary to BPH and the psychological morbidities (depression, anxiety and psychiatric disorder). In the surgical group (TURP) pretreatment, the severity of LUTS and therefore the psychological morbidity was higher.

On the other hand, TURP improved LUTS and the resultant psychological morbidity significantly more than medical treatment; which means that TURP is better than medical option in the management of those morbidities.

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