Quality of life with desmopressin add on alpha blocker in treatment of refractory nocturia in men with Lower Urinary Tract Symptoms of Benign Prostatic Hyperplasia

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Introduction

Lower urinary tract symptoms (LUTS) due to prostatic hyperplasia is a very common condition among older men through the world. Approximately, 25% of men over the age of 40 suffering from (LUTS), that affect the quality of life by interfering with normal daily activities and sleep pattern (1)

Nocturia is a complaint that the individual wakes one ore more times at night to void due to urge. Most of nocturia is considered as associated condition, and thus treated with medications for LUTS or Overactive bladder (OAB), as alpha blockers, 5-alpha-reductive inhibitor and antimuscarinics in daily practice. Unfortunately the response seems to be unsatisfactory.

Desmopressin has been proven to be an effective treatment for nocturia for years. Desmopressin is a synthetic antidiuretic hormone analogue. It is currently approached for treatment of nocturnal polyuria, as well as, several other antimuscarinic agents (2).

Regardless of the underlying cause, nocturnal voiding is associated with sleep disorders such as insomnia and fragmented sleep (3). Sleep plays an important role in the physical and mental well-being and is necessary for restitution and rehabilitation, energy conservation/vitality and cognitive processing (4). Moreover, increased severity of nocturia is positively correlated with a higher level of impairment of Quality of life (4).

The aim of the present work is to study the efficacy and safety of Desmopressin acetate add on alpha-blocker in treatment of refractory nocturia in men complaining of Lower Urinary Tract Symptoms of Benign Prostatic Hyperplasia

Methods

Fifty men complaining of refractory nocturia in spite of recieving medical therapy for Lower Urinary Tract Symptoms of Benign Prostatic Hperplasia more than one month, were enrolled in the present study. Men with diabetes mellites diabetes insipidus, congestive heart failure, renal or hepatic insufficiency, as well as, cases on diuretics were excluded from the study. All cases were subjected to full clinical evaluation, International Prostatic Symptom Score (IPSS), renal function tests, serum electrolytes, as well as routine radiological work up. Oral Desmopressin (0.1 mg) was added to alpha-blocker (tamsulucin 0.4 mg) at bed time for three months. Monitoring of all cases was carried out with monthly IPSS, renal function tests and serum electrolytes.

Evaluation of quality of life and quality of sleep was carried out using Quality of life (QoL), sleep quality of life (S-QoL) and bother/concern domain questionnaires (5).

Results

Among the thirty men of the present series, the number of nocturnal voids decreased significantly ($p < 0.001$) from 7.63 ± 2.41 to 0.83 ± 0.75 after three months. IPSS decreased statistically significant ($p < 0.001$) from 13.97 ± 3.85 to 8.77 ± 2.7 after three months of desmopressin ad on.

Table(1):Effect of Desmopressin add on alpha blockers on avoiding diary , in men with benign prostatic hyperplasia

	At presentation	3 months	p
nocturia	7.61±2.41	0.83±0.75	<0.001
IPSS	13.97±3.85	8.77±2.70	<0.001
Q-max	16.17±2.45	17.40±2.11	1

Table(2):Effects of Desmopressin add on alpha blockers on Quality of life , in men with benign prostatic hyperplasia

	At presentation	3 months	p
Sleep/energy domain	64.9±18.60	77.4±17.70	<0.0003
bother/concern domain	60.6±21.50	79.1±15.10	<0.0001
Global health status	5.00±2.90	2.90±2.40	<0.0001
Sleep Quality Index (SQI)	9.2±2.5	7.2±3.2	<0.002

Table(3):Effects of Desmopressin on serum electrolytes , in men with benign prostatic hyperplasia

	At presentation	3 months
Serum Sodium (meg/L)	144.00±5.80	137.00±2.50
Serum Potassium (meg/L)	4.30±0.60	3.9±0.30

Moreover, Q-max improved insignificantly ($p = 1.00$) after three months of combination therapy, where it increased from 16.17 ± 2.45 to 17.40 ± 2.11 (table1). Also, we reported highly significantly improvement of men's quality of life with add on desmopressin after three months follow up. Sleep/energy domain improved statistically significantly ($p < 0.0003$) from 64.9 ± 18.6 to 77.4 ± 17.7. Bother/ concern domain, improved statistically ($p < 0.0001$) from 60.6 ± 21.5 to 79.1 ± 15. Global health status improved significantly ($p < 0.0001$) after three months of desmopressin add on from 5.0 ± 2.9 to 2.9 ± 2.4. Furthermore, SleepQuality of Index(SQI) improved significantly ($p < 0.002$) from 9.2 ± 2.5 to 7.2 ± 3.2 after three months of follow up (table 2). On the other hand, serum sodium monitoring (table3) showed insignificantly change from 144 ± 3.7 to 137 ± 2.5. Also, serum potassium monitoring showed no signs ant change after three months of desmopressin therapy (from 4.3 ± 0.6 to 3.9 ± 0.30). As regards PSA monitoring, it showed no significant change during the study period

Conclusions

In conclusion when Desmopressin add on therapy for refractory nocturia in men treated with alpha-adrenergic blockers for Lower Urinary Tract Symptoms, improved voiding Symptoms, nocturia, as well as, quality of life with high safety.

References

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