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URODYNAMIC APPRAISAL OF THE EFFECT OF THE A-BLOCKER ALFUZOSIN ON FEMALE PRIMARY BLADDER NECK OBSTRUCTION

Hypothesis / aims of study

Alpha–blockers are a worldwide established treatment for male bladder outlet obstruction (BOO). However, their effect on BOO in women remains controversial. There are data to support the therapeutic rationale of using α-blockade for functional BOO in females (1), and initial trials have yielded encouraging results.

The objective of this study was to assess the effect of the selective α_1-blocker alfuzosin on urodynamic parameters and quality of life in female patients with primary bladder neck obstruction (PBNO).

Study design, materials and methods

Between 2000 and 2007 twenty five women with PBNO were included in this study. Obstructed patients were selected according to the Blaivas - Groutz nomogram (2) and Gleason and Latimere equation calculating urethral resistance (3). PBNO was diagnosed after mechanical causes or neurological disorders were excluded. All patients were treated with Alfuzosin 5mg po twice daily for 8 weeks.

Global assessment question (GAQ), bother score index (BSI) and the following urodynamic parameters were assessed at baseline and end-of- treatment visits: maximum flow rate (Qmax), mean flow rate (Qave), post void residual urine (Vres), voided volume (Vvoid), maximum urodynamic capacity (Capac), maximum detrusor pressure (Pdet max), maximum detrusor pressure at maximum flow rate (PdetmaxQmax), maximum flow rate (Qmax), maximum urethral pressure (Pura) and urethral functional length (Lfun).

Results

Symptoms subjectively improved (BSI) in 64% of the patients (16/25). The same patients were satisfied with treatment. The Bother index before and after treatment with alfuzosin is shown in table 1.

Most urodynamic parameters also improved. Specifically, mean Qmax increased from 10.56 ml/sec to 14.22 ml/sec (t-test, $p<0.0001$), the mean Vres decreased from 90.80 to 60.40 ml (t-test, $p<0.0001$) and the urethral resistance decreased from 0.98 to 0.55 (Wilcoxon rank test, $p<0.0001$). Urodynamic parametes before and after treatment with alfuzosin are presented in table 2.

Interpretation of results

Although Lfun and Pura did not change significantly, the rest of the urodynamic parameters related to obstruction showed statistically significant differences after treatment. It is possible that the effect of α-blockers on the female urethra is not very potent albeit enough to alleviate functional obstruction to some extent. According to our results, this alleviation of the obstruction seems to be important both subjectively and objectively; Bother score changes were in accordance with the urodynamic findings as several urodynamic parameters were improved in these patients. It is also important to mention that the results of the subjective improvement were in absolute accordance with the results of the global assessment question evaluation. Our results are in agreement with the few other studies evaluating the effect of α-blockers on female functional obstruction. A limitation of this study is the small number of patients and lack of placebo arm.

Concluding message

Alfuzosin significantly improved urodynamic parameters and alleviated symptoms in nearly two-thirds of patients with PBNO and can be an effective first-line treatment of this condition.

TABLE I

Bother index before and after treatment with alfuzosin

Bother index	Pre-treatment No of patients	Post-treatment No of patients
Not at all (1)		12
Mild (2)		3
Moderate (3)	9	4
Severe (4)	16	6

TABLE II (a)

Urodynamic parametes before and after treatment with alfuzosin (mean±SD)

	Pura	Lfun	Capac	Pdet max At pressure flow	Q max Atpressure flow	Vres At pressure flow
PreTx	82.32±9.96	3.10±0.28	431.60±29.39	99.72±16.94	9.74±1.60	108±33.95
Post Tx	80.08±9.94	5.82±13.58	467.60±39.72	89.24±16.21	13.80±2.82	65.60±36.18
P value	P= 0.079	P= 0.0604	<0.0001	<0.0001	<0.0001	<0.0001

TABLE II (b)
Urodynamic parametes before and after treatment with alfuzosin (mean±SD)

	Pura	Lfun	Capac	Pdet max At pressure flow	Q max Atpressure flow	Vres At pressure flow
PreTx	82.32±9.96	3.10±0.28	431.60±29.39	99.72±16.94	9.74±1.60	108±33.95
Post Tx	80.08±9.94	5.82±13.58	467.60±39.72	89.24±16.21	13.80±2.82	65.60±36.18
P value	P= 0.079	P= 0.0604	<0.0001	<0.0001	<0.0001	<0.0001

References
1. J Urol. 162(5):1829-1832 1999
2. Neurourol Urodyn.19(5):553-64 2000
3. J Urol. 87: 844 – 852 1962

Specify source of funding or grant	**None**
Is this a clinical trial?	**Yes**
Is this study registered in a public clinical trials registry?	**Yes**
Specify Name of Public Registry, Registration Number	**Trial Registration: ISRCTN , 40295045, http://www.controlled-trials.com**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**No**
This study did not require eithics committee approval because	**At the time this trial was started (2000) was not required eithics committee approval for case control studies in Greece.**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**