

ANTIMUSCARINIC TREATMENT FOR FEMALE PATIENTS WITH OVERACTIVE BLADDER SYNDROME: COMPARISON OF DAYTIME AND NIGHTTIME DOSING

Hypothesis / aims of study

Nighttime dosing with tolterodine ER could reduce more nocturnal micturitions, compared with placebo [1]. However, we were interested if nighttime dosing did have a superior effect in reducing nocturnal micturitions, compared with daytime dosing.

Study design, materials and methods

From January 2005 to February 2012, voiding diaries, urodynamic studies and medical records of women with overactive bladder syndrome (OAB) who were treated by tolterodine SR once per day (nighttime dosing or daytime dosing) for 12 weeks in the urogynecologic outpatient clinics were reviewed retrospectively.

Results

A total of 42 women were enrolled. Except age, baseline characteristics of both groups did not differ between these two groups (Table 1). However, significant between-group differences were found in the changes of 0-6h voiding episodes, 18-24h and 0-6h total voided volume (mL/24h) and maximum urethral pressure before and after treatment (Table 2).

Interpretation of results

Significant decrease of 0-6h voiding episode was found in the daytime group (Wilcoxon signed-rank test, $P = 0.01$) but not the nighttime group ($P = 0.73$), and significant decrease of 18-24h and 0-6h total voided volume was found in the daytime group ($P = 0.03$ and 0.008 , respectively) but not the nighttime group ($P = 0.18$ and 0.10 , respectively).

Concluding message

Daytime dosing of tolterodine SR may have higher effect in reducing nocturia severity. Thus, cases who bothering from nocturia may take antimuscarinics in the daytime.

Table 1. Baseline characteristics between daytime and nighttime dosing groups

Variables	Daytime (n = 17)	Nighttime (n = 25)	†P
Age	49 (35,56)	61 (54,67)	0.01
Voiding episodes (24h)			
6-12h	4.3 (2.8,5.3)	3.3 (2.7,5)	0.75
12-18h	4.7 (3.8,5.7)	3.8 (3.4,8)	0.22
18-24h	5 (2.8,5.5)	3.7 (2.8,4.8)	0.46
0-6h	1.3 (1,2.3)	1.2 (1,2)	0.74
Urgency episodes (24h)			
6-12h	0.7 (0.3,1.5)	0.8 (0.3,2.2)	0.58
12-18h	0.7 (0.3,1.5)	0.7 (0.3,2.8)	0.92
18-24h	0.3 (0,1.5)	0.3 (0,2.1)	0.77
0-6h	0.3 (0,0.5)	0.2 (0,1)	0.99
Incontinence episodes (24h)			
6-12h	0 (0,0)	0 (0,0.4)	0.17
12-18h	0 (0,0)	0 (0,0.3)	0.10
18-24h	0 (0,0)	0 (0,0)	0.42
0-6h	0 (0,0)	0 (0,0)	0.51
Total voided volume (mL/24h)			
6-12h	513 (324,708)	514 (304,750)	0.70
12-18h	627 (396,841)	443 (518,792)	0.92
18-24h	471 (395,720)	421 (301,617)	0.59
0-6h	307 (94,494)	263 (151,375)	0.73
Voided volume per micturition (mL)			
6-12h	140 (72,169)	142 (102,187)	0.40
12-18h	121 (89,181)	152 (130,198)	0.29
18-24h	129 (86,152)	111 (94,160)	0.90
0-6h	205 (93,272)	198 (109,256)	0.92
Pad weight (g)	0 (0,0)	0 (0,2)	0.43
Qmax (mL/s)	15 (12,20)	16 (10,19)	0.68
Qavr (mL/s)	9 (6,9)	7 (5,11)	0.52
Voiding time (sec)	25 (17,38)	36 (23,49)	0.25
Voided volume (mL)	212 (133,239)	215 (137,250)	0.94
PVR (mL)	40 (20,46)	45 (25,69)	0.30
SD (mL)	237 (215,259)	277 (253,284)	0.048

Pdetqmax (cmH2O)	32 (23,37)	28 (25,34)	0.72
MUP (cmH2O)	104 (92,112)	85 (76,111)	0.30
MUCP (cmH2O)	103 (90,109)	77 (62,99)	0.15
FUL (cm)	3.9 (3.4,4.3)	3.1 (2.6,4.2)	0.11
PTR (%)	31 (27,37)	29 (25,39)	0.88

Table 2. Changes of bladder diary and urodynamic variables after tolterodine treatment between daytime and nighttime dosing

Variables	Daytime (n = 15)	Nighttime (n = 20)	†P
Voiding episodes (24h)			
6-12h	-1.3 (-1.7,0.3)	-0.3 (-1.3,0.1)	0.74
12-18h	-1 (-2.5,-1)	-0.7 (-1.3,0.1)	0.13
18-24h	-1 (-1.8,-0.3)	-0.5 (-1.3,-0.2)	0.13
0-6h	-0.3 (-0.7,-0.3)	0 (-0.3,0.7)	0.03
Urgency episodes (24h)			
6-12h	-0.3 (-0.8,-0.2)	-0.5 (-1.3,0)	0.52
12-18h	-0.3 (-1.5,0)	-0.3 (-1,0)	0.87
18-24h	-0.3 (-1.2,0)	0 (-1.2,0.1)	0.48
0-6h	0 (-0.3,0)	0(-0.7,0)	0.75
Incontinence episodes (24h)			
6-12h	0 (0,0)	0 (0,0)	0.53
12-18h	0 (0,0)	0 (0,0)	0.51
18-24h	0 (0,0)	0 (0,0)	0.98
0-6h	0 (0,0)	0 (0,0)	0.51
Total voided volume (mL/24h)			
6-12h	0 (-164,100)	3 (-85,116)	0.58
12-18h	-72 (-362,13)	-36 (-302,60)	0.66
18-24h	-97 (-256,1)	40 (-90,93)	0.02
0-6h	-99 (-200,3)	73 (-52,282)	0.004
Voided volume per micturition (mL)			
6-12h	36 (-21,61)	30 (-3,63)	0.70
12-18h	23 (-27,66)	11 (-28,63)	0.97
18-24h	-2 (-17,36)	22 (-4,55)	0.25
0-6h	-20 (-82,44)	56 (-2,90)	0.05
Variables	Daytime (n = 15)	Nighttime (n = 18)	†P
Pad weight (g)	0 (0,0)	0 (-2,0)	0.64
Qmax (mL/s)	2 (-1,9)	0(-3,4)	0.58
Qavr (mL/s)	1 (0,4)	1 (-1,3)	0.66
Voiding time (sec)	0 (-7,18)	-3 (-21,6)	0.18
Voided volume (mL)	9 (-27,96)	20 (-31,134)	0.86
PVR (mL)	0 (-7,27)	12 (-16,30)	0.84
SD (mL)	57 (16,78)	60 (3,88)	1.00
Pdetqmax (cmH2O)	-3 (-10,1)	-1 (-6,5)	0.55
MUP (cmH2O)	6 (-5,24)	-6 (-25,7)	0.04
MUCP (cmH2O)	5 (-8,26)	-5 (-24,6)	0.14
FUL (cm)	-0.2 (-0.6,-0.1)	-0.5 (-0.7,0.2)	0.80
PTR (%)	2 (-4,7)	5 (-7,23)	0.42

References

1. Rackley R, Weiss JP, Rovner ES, et al. Nighttime dosing with tolterodine reduces overactive bladder-related nocturnal micturitions in patients with overactive bladder and nocturia. *Urology* 2006;67:731–6.

Disclosures

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