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Leng J[1], Wan B[2], Du C[3], Li W[4], Xie K[5], Shen Z[6], Xu Z[7], Wu S[8], Fang Z[9], Liao L[10], Ma L[11], Yang Y[12]

1. *Renji Hospital Affiliated to Shanghai JiaoTong University School of MedicineRenji Hospital Affiliated to Shanghai JiaoTong University School of Medicine,* ***2.*** *Beijing Hospital of the Ministry of Health,* ***3.*** *Second Affiliated Hospital Zhejiang University College of Medicine,* ***4.*** *Second Hospital of Hebei Medical University,* ***5.*** *Guangzhou First Municipal People's Hospital,* ***6.*** *Ruijin Hospital Affiliated to Shanghai JiaoTong University School of Medicine,* ***7.*** *Wuxi People's Hospital,* ***8.*** *Peking University First Hospital,* ***9.*** *Huashan Hospital Affiliated to Fudan University,* ***10.*** *Beijing Boai Hospital,* ***11.*** *Peking University Third Hospital,* ***12.*** *Beijing Chaoyang hospital affiliating Capital University of Medical Sciences*

RANDOMIZED CLINICAL TRIAL EVALUATING SAFETY AND EFFICACY OF PROPIVERINE ER 30 MG AND TOLTERODINE ER 4 MG IN THE TREATMENT OF OVERACTIVE BLADDER

Hypothesis / aims of study

The aim of the present study was the evaluation of efficacy and safety of propiverine hydrochloride 30 mg extended release (ER) capsules compared to tolterodine tartrate 4 mg extended release (ER) tablets in the treatment of patients suffering from overactive bladder symptoms.

Study design, materials and methods

The study was designed as multicenter, randomized, double-blinded, double-dummy, active controlled parallel-group trial aiming at non-inferiority of propiverine ER 30 mg compared to standard-dose tolterodine treatment.

After a 2 weeks washout/screening period, 328 Chinese patients with OAB were randomized at a ratio of 1:1 either to the treatment group propiverine ER (30 mg/day, p.o.) or to the control group tolterodine ER (4 mg/day, p.o.) for a period of 8 weeks. The number of voidings/24h, the voided volume and the number of incontinence episodes were assessed within a 3-days bladder diary at baseline, and after 2 and 8 weeks of treatment. As primary efficacy endpoint of the study the average change in the number of voidings/24h measured at baseline and after 8 weeks was chosen. Considering possible drop-outs and using block randomization, in each study group 164 patients were enrolled (non-inferiority margin=1.0, α=0.05 and power=80%).

	Treatment period	Tolterodine ER 4 mg (n=162)	Propiverine ER 30 mg (n=162)	p-value
Mean number of voidings/24h				
	Baseline	14.65 ± 6.04	15.17 ± 5.80	0.2132
	2 weeks	11.88 ± 4.90	12.22 ± 4.77	0.2413
	8 weeks	10.88 ± 4.76	10.59 ± 4.46	0.6295
	Change from baseline to EoT	3.77 ± 5.08	4.58 ± 4.08	*0.0050*
Mean voided volume (ml)				
	Baseline	106.11± 39.54	98.87 ± 43.14	0.1216
	2 weeks	133.89 ± 57.80	125.73 ± 57.70	0.1583
	8 weeks	147.37 ± 64.05	140.20 ± 61.71	0.9206
	Change from baseline to EoT	41.25 ± 54.49	41.33 ± 48.31	0.8887
Mean incontinence episodes/24h				
	Baseline	0.62 ± 1.56	1.26 ± 3.08	0.2251
	2 weeks	0.37 ± 1.25	0.51 ± 2.15	0.5667
	8 weeks	0.28 ± 1.11	0.33 ± 1.63	0.7180
	Change from baseline to EoT	- 0.34 ± 1.12	- 0.93 ± 2.07	*0.0275*
Benefit in patient's self-assessment				
2 weeks				0.6285
	No	51 (31.5%)	47 (29.0%)	
	Yes	111 (68.5%)	115 (71.0%)	
8 weeks				*0.0073*
	No	36 (22.2%)	18 (11.1%)	
	Yes	126 (77.8%)	144 (88.9%)	

Table 1: Overview of results (ITT = intent to treat patient population)

Results

The number of voidings/24 h significantly decreased from baseline to end of treatment (EoT) in both, the propiverine ER 30 mg group ($p<0.0001$) and the tolterodine ER 4 mg group ($p<0.0001$). The change from baseline was more pronounced with propiverine compared to the control group (4.58 ± 4.08 vs. 3.77 ± 5.08, $p=0.0050$). Compared to baseline, significant

improvements in the voided volume and the number of incontinence episodes were observed both, after 2 and 8 weeks, whereby these improvements were slightly more pronounced in the propiverine group. This was also reflected with regard to a high benefit level (88.9% vs. 77.8%) in patient's self-assessment for the propiverine ER 30 mg treatment group.
The incidence of adverse events (AE) was comparable between the propiverine and tolterodine treatment groups (41.4% vs. 45.1%). The most frequent adverse reaction observed in both groups was dry mouth, with no statistical significance between both groups (26.5% vs. 27.8%). Four serious adverse events (SAE) were recorded (4 patients; 2.47%), all of them in the tolterodine treatment group, but without relation to study medication intake.

Interpretation of results
The study results demonstrated that propiverine ER 30 mg was as effective and safe as tolterodine ER in the standard dose of 4 mg for treatment of patients suffering from OAB symptoms. Propiverine ER 30 mg was even more effective in the overall reduction of incontinence episodes.

Concluding message
Propiverine extended release in a daily dose of 30 mg was demonstrated to be effective and safe in the treatment of patients suffering from OAB by improving their symptoms and quality of life.

Disclosures
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