and maximum bladder capacity which was evaluated by means of urodynamic measurements.

RESULTS: In the confirmatory part of the analysis a one-sided trend test for O'Brians z-score sum was carried out. The z-scores were calculated from the mean micturition frequency changes and the changes in maximum bladder capacity. A statistically significant difference (per-protocol: p = 0.0007; intention-to-treat: p = 0.0017) was found and the study could be stopped due to the positive result.

Results of urodynamic measurements, Intention-to-treat analysis

Variable		1 x 40 mg TCI (n=56)			2 x 40 mg TCI (n=56)			Placebo (n=58)		p-value (two-sided)
		Baseline	Change	Treatment effect*	Baseline	Change	Treatment effect*	Baseline	Change	
Maximum bladder capacity [ml]	Mean	232.25	+ 69.98	+ 45.3	192.68	+ 86.11	+ 61.4	234.33	+ 24.71	0.0006
	SD	109.20	83.66		90.44	86.06		112.39	89.91	
Vol. at 1. desire to void [ml]	Mean	91.70	+ 53.00	+ 21.4	82.88	+ 54.96	+ 23.4	86.24	+ 31.59	0.1109
	SD	54.60	70.57		48.68	59.25		54.55	66.91	
Volume at 1. unstable contraction [ml]	Mean	125.23	+113.66	+ 53.5	114.39	+ 135.41	+ 75.2	130.95	+ 60.21	0.0333
	SD	85.10	155.23		89.29	130.95		82.99	123.28	
Volume at maximum contraction [ml]	Mean	219.80	+ 68.59	+ 45.2	171.29	+ 100.39	+ 77.0	222.09	+ 23.40	0.0015
	SD	116.72	113.22		90.38	117.12		116.29	107.70	
Residual urine [ml]	Mean	15.89	+ 14.59	+ 5.2	8.03	+ 16.00	+ 6.6	14.83	+ 9.41	0.719
	SD	26.81	41.00		15.27	44.78		25.07	50.37	

SD = standard deviation * = versus placebo

The safety analysis revealed a dose-dependent difference of the number of patients with adverse events in the three treatment groups:

Placebo: n=17 (28.3%)
1 x 40 mg TCI: n=29 (50.9%)
2 x 40 mg TCI: n=37 (63.8%)

Most of the adverse events reported were known reactions to anticholinergics such as gastro-intestinal complaints, especially mouth dry. No serious adverse events occured during this clinical trial.

CONCLUSION: Both dosages of TCI (40 mg once daily and 40 mg b.i.d.) showed a statistically significant and clinically relevant treatment effect in patients with urge-syndrome compared to placebo. Thus, TCI appears to be an effective and safe treatment.

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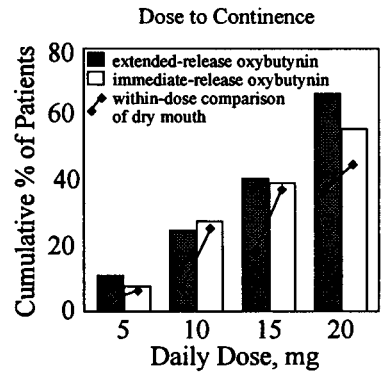
COMPARISON OF URGE INCONTINENCE TREATMENTS

Aims of Study. Oxybutynin chloride is a first-line treatment for urge incontinence (UI), a symptom of overactive bladder. However, dry mouth may limit the dosage and thus the therapeutic use. We compared a novel, extended-release, once-daily oxybutynin tablet with traditional immediate-release oxybutynin for UI.

Methods. A total of 201 women and 25 men with UI (mean age: 59) were randomly assigned to extended-release oxybutynin taken once daily (double-blind, double-dummy) or immediate-release oxybutynin taken qd to qid; both groups were dose-adjusted (5-20 mg/day) to optimum efficacy and tolerability. Kaplan-Meier survival analysis was applied to the data.

Results. Complete continence was reported by a similar percentage of patients at each dose (p=0.84). See figure. At each dose, significantly fewer patients on extended-release oxybutynin reported moderate-severe dry mouth than on immediate-release oxybutynin (overall p<0.007). A similar number of patients on a given dose of immediate-release oxybutynin reported moderate-severe dry mouth as those on a 5 mg higher dose of extended-release oxybutynin. Conclusions. This study showed that extended-release oxybutynin provided comparable efficacy and lower dry mouth at each dose to immediate-release oxybutynin. Patients may tolerate an upward dose shift of 5 mg of extended-release oxybutynin to achieve greater efficacy without a comparable increase in dry mouth than immediate-release oxybutynin. Patient compliance and tolerability may improve with once-daily therapy with extended-release oxybutynin.



Source of Funding: ALZA Corp. on behalf of Crescendo Pharmaceuticals, Corp., Palo Alto, CA

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EFFECT OF SACRAL NEUROMODULATION ON PATIENTS WITH URGE/FREQUENCY

Aims of Study: During the last decade neuromodulation of sacral nerves has shown promising results in restoring bladder function in patients with voiding dysfunction. The present study consists of a multi-center trial designed to assess the efficacy of sacral nerve neuromodulation in patients presenting with refractory urinary urge/frequency.

Methods: A total of 220 patients from 12 centers underwent a detailed voiding diary, urodynamic evaluation and percutaneous test stimulation of the sacral nerves at S3 and/or S4. All patients enrolled in the study had received and failed conventional therapies such as pharmacotherapy, hydrodistension and surgical interventions. Of these, 80 patients demonstrated a satisfactory response to a percutaneous test stimulation and were randomly divided into 2 groups: a) the Implant Group (n=47) and b) the Control Group (n=33). Patients in the control group were implanted after 6 months. Patients were followed at 1, 3 and 6 months and at 6-month intervals for up to two years post-implant of a neuroprosthetic Itrel II® (Medtronic Inc., Minneapolis MN). The study variables included the number of voids/day, volume/void and the degree of urgency prior to void.

Results: A comparison of voiding variables in implanted patients with those in the control group at 6 months showed a statistically significant improvement in the number voids/day (from 16.9±9.7 to 9.3±5.1), the volume/void (from 118 ±74 to 226 ± 124 mL) and the degree of urgency (from 2.2 ± 0.6 to 1.6 ± 0.9). At 6 months post-implant, neurostimulators were turned off in the implant group in order to evaluate the therapy. All patients showed a return of their urinary symptoms within a few weeks. Patients in the control group showed no statistical changes in voiding parameters at 6 months.

Conclusions: The findings of this study showed that changes in the degree of urgency correlate with changes in the voiding volume and the frequency of urination per day. Neuromodulation of the sacral nerve roots is an efficient therapy that helps patients with refractory urge/frequency.