333

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SOLIFENACIN TREATMENT FOR NEUROGENIC DETRUSOR OVERACTIVITY: PATIENT-REPORTED OUTCOMES (PROS) FROM THE RANDOMISED CLINICAL TRIAL SONIC

Hypothesis / aims of study

Many patients with spinal cord injury (SCI) or multiple sclerosis (MS) develop neurogenic detrusor overactivity (NDO) (1,2). SONIC investigated the efficacy and safety of fixed doses of solifenacin as a treatment for NDO. Here we present preliminary results for patient-reported outcomes (PROs).

Study design, materials and methods

SONIC was a prospective, randomised, multicentre (45 sites), multinational (10 European countries plus Australia), phase 3b/4 parallel-group study. Following a 2-week, single-blind placebo run-in period (acted as a washout period for any previous medication), 189 patients with NDO were randomised to receive solifenacin 5 or 10 mg, oxybutynin 15 mg (5 mg TID; active control) or placebo once daily for 4 weeks. The primary objective was to assess the efficacy of solifenacin 10 mg, compared with placebo. PROs included as secondary efficacy variables were: Visual Analogue Scale (VAS) to rate treatment satisfaction (TS-VAS); Patient Perception of Bladder Condition (PPBC; 6-point categorical scale); Incontinence Quality of Life Questionnaire (I-QoL; 22 questions, each with a 5-point response scale); EuroQoL 5-Dimension Questionnaire (EQ-5D) and EQ-5D health state VAS. A sample size of 172 patients (43 patients in each treatment group) was planned, to detect a difference of 80 mL in bladder volume at maximum cystometric capacity between the primary comparison of solifenacin 10 mg and placebo with 80% power, using a two-sided significance level of 5%. Efficacy analyses used an ANCOVA model, with treatment group and geographic region as fixed factors and baseline as a covariate. Continuous variables are presented using descriptive statistics.

Results

One hundred and seventy-six patients (95 MS, 81 SCI) were included in the full analysis set. Significant increases in mean TS-VAS scores from baseline were reported for all three treatments, compared with placebo (all $p = 0.01$), with no significant differences between the active treatment groups. Following treatment with solifenacin 10 mg, there was a statistically significant improvement in PPBC score over placebo from baseline (–0.6 and –0.1, respectively; $p = 0.04$). When comparing I-QoL subscale scores for solifenacin, only the mean improvement in avoidance and limiting behaviour reached statistical significance (5 mg dose, $p = 0.01$; 10 mg dose, $p = 0.03$). All other I-QoL score increases were not statistically significant for solifenacin (both doses) or oxybutynin. The EQ-5D results are included in the table below. Compared with placebo, mean EQ-5D health state VAS score significantly increased from baseline with solifenacin 10 mg ($p = 0.01$) and oxybutynin 15 mg ($p = 0.01$), but not solifenacin 5 mg ($p = 0.30$). The increase in EQ-5D health state VAS score with solifenacin treatment (either dose) was not significantly different to that reported with oxybutynin.

Interpretation of results

Solifenacin 10 mg treatment led to significant improvements in patients' treatment satisfaction, perception of bladder condition and health-related outcomes, compared with placebo. This treatment also resulted in a significant improvement in 'avoidance and limiting behaviour', and a trend towards improvement in other aspects of QoL. This result is interesting in light of the fact that the study was not designed or powered specifically to investigate differences in PROs.

Concluding message

Previously reported improvements in cystometric function and urodynamic variables with solifenacin 10 mg for the treatment of NDO (3) are reflected here in significant improvements in PROs.

Table: Mean (SD) change from baseline in patient-reported outcomes

		Placebo (n=40)	Solifenacin 5 mg (n=46)	Solifenacin 10 mg (n=51)	Oxybutuynin 15 mg (n=39)
TS-VAS		1.3 (35.55)	10.3 (47.23)[§]	14.3 (34.43)[§]	11.7 (44.86)[§]
PPBC		–0.1 (0.92)	–0.4 (1.04)	–0.6 (1.04)[†]	–0.5 (1.02)
I-QoL	Total	3.86 (13.26)	8.13 (15.05)	9.48 (17.69)	5.63 (17.34)
	Avoidance/limiting behaviour	1.87 (12.35)	9.14 (15.97)[§]	8.96 (18.6)[†]	6.76 (17.22)
	Psychosocial impact	3.77 (13.79)	8.54 (16.31)	9.30 (17.04)	3.24 (18.91)
	Social embarrassment	5.92 (19.50)	6.71 (17.60)	10.20 (20.86)	6.88 (20.59)
EQ-5D*	Mobility	6 vs 4 (n=39)	3 vs 4 (n=44)	6 vs 1 (n=50)	3 vs 3
	Self-care	3 vs 1	2 vs 4	3 vs 6	0 vs 1
	Usual Activities	5 vs 5	5 vs 4	13 vs 1	3 vs 3
	Pain/Discomfort	8 vs 2	3 vs 1	15 vs 6	3 vs 6
	Anxiety/Depression	5 vs 4	7 vs 3	7 vs 1	3 vs 6
EQ-5D VAS		–0.9 (12.63)	2.4 (14.84)	8.2 (16.23)[§]	8.6 (18.39)[§]

*Patients with improvement vs patients with worsening (n if different)
† $p < 0.05$ vs placebo; § $p \leq 0.01$ vs placebo

References

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Disclosures

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