Atomoxetine-Related Change in Sluggish Cognitive Tempo Is Partially Independent of Change in Attention-Deficit/Hyperactivity Disorder Inattentive Symptoms

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ABSTRACT

Objectives: To evaluate effects of atomoxetine versus placebo on sluggish cognitive tempo (SCT) and determine factors affecting improvement of SCT in children with attention-deficit/hyperactivity disorder (ADHD) with dyslexia (ADHD+D) or dyslexia only.

Methods: This is a post hoc analysis of a 16-week placebo-controlled, double-blind randomized phase of a previously reported atomoxetine study in children aged 10–16 years with ADHD+D, Dyslexia-only, or ADHD-only (no placebo arm). Least squares mean changes from baseline to endpoint for atomoxetine versus placebo on the Kiddie-Sluggish Cognitive Tempo Interview (K-SCT) (Parent, Teacher, and Youth) were analyzed using analysis of covariance and multiple regression (partial R2) analyses to test contributions of ADHD and dyslexia to improvements in K-SCT scores.

Results: Results were examined for the three informants within the three diagnostic groups (nine outcomes). Atomoxetine treatment was associated with significant reductions from baseline in seven of the nine outcomes using the p = 0.05 significance level, appropriate for exploratory analysis. When change in ADHD symptom severity was controlled, all of the seven SCT outcomes remained significant; changes in effect sizes were minimal. Regression analyses using SCT change as the criterion found a significant contribution by inattention change only for parent report, whereas, baseline SCT severity was a significant predictor in the randomized groups with the exception of teacher report in the Dyslexia-only group.

Conclusion: Given that controlling for change in ADHD symptoms had little effect on change in SCT scores, findings suggest that change in SCT is substantially independent of change in ADHD. By inference, SCT and its response to treatment is a partially distinct phenomenon from ADHD response. Regression analyses did not reveal global effects of inattention change on SCT change; instead, baseline SCT severity was the strongest predictor of placebo-controlled treatment effect on SCT. Atomoxetine effects on SCT appear to be best predicted by how much room for improvement exists for SCT rather than by severity or improvement in inattention.

Clinical trial registration: NCT00607919, www.clinicaltrials.gov