A randomized parallel-controlled study of curative effect and safety of atomoxetine and methylphenidate in treatment of ADHD in children

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Abstract:

Objective: To compare the curative effect and safety of atomoxetine and methylphenidate in the treatment of attention deficit hyperactivity disorder (ADHD) in children.

Methods: One hundred and four children with ADHD treated in our hospital from February 2014 to January 2016 were included in this study. They were divided into atomoxetine group (52 cases) and methylphenidate group (52 cases) according to the design method of the randomized single-blind parallel controlled trial. Both groups were respectively treated with atomoxetine and methylphenidate for 8 weeks. Curative efficacy was evaluated through the changes of recorded scores of ADHD Rating Scale-IV: Parent Version (ADHDRS-IV-Parent: Inv), Conners’ Parent Rating Scale-Revised: Short Form (CPRS-R: S) and Clinical Global Impression of ADHD Severity (CGI-ADHD-S) before and after treatments. Cohen’s d, an effect size index, and the Treatment Emergent Symptom Scale (TESS) were used to evaluate and compare the safety of the two treatments.

Results: The response rates of atomoxetine group and methylphenidate group were 71.2% and 78.8% (P=0.365), respectively; and the dropout rates were 11.5% and 7.7% (P=0.506), which were not significantly different. A statistically significant decrease from baseline was observed in the postoperative scores of both groups in comparison with the preoperative ones (P<0.001). It had significant clinical significance, but there was no significant difference in curative effect between the two treatments. No serious adverse event occurred during the treatment, and the most common adverse events in two groups were a loss of appetite, lethargy, and nausea. The incidence of lethargy of atomoxetine group was significantly higher than that of methylphenidate group (P=0.027).

Conclusion: The short-term efficacy and safety of atomoxetine in the treatment of ADHD in children are similar to that of methylphenidate, and the long-term efficacy and safety of the two treatments need to be further verified by more randomized controlled trials.