Non-Linear Pharmacokinetics of Atomoxetine in Adult Japanese Patients With ADHD

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Abstract

Objective:
The objective was to reveal the relationship between dose and concentration of atomoxetine.

Method:
Fifty-five blood samples of 33 patients with ADHD were examined using high-performance liquid chromatography.

Results:
The plasma concentrations were 53.2 ± 67.0, 298.0 ± 390.5, and 639.3 ± 831.9 ng/mL at doses of 40 mg, 80 mg, and 120 mg, and the concentration/dose were 1.33 ± 1.67, 3.73 ± 4.88, and 5.33 ± 6.93 ng/mL/mg, respectively. Statistical analyses revealed a significant correlation between the concentration and the dose of atomoxetine (p = .004), and a trending toward significance in the difference in the concentration/dose in the three dosage groups (p = .064). The concentration/dose at 40 and 80 + 120 mg/day were 1.33 ± 1.67 and 4.22 ± 5.53 ng/mL/mg, the latter was significantly higher than the former (p = .006), which suggested non-linear pharmacokinetics.

Conclusion:
Clinicians should carefully titrate in high dose atomoxetine treatment.