

Atomoxetine

Class: Norepinephrine Reuptake Inhibitor, Selective

Pharmacokinetics

Absorption

- i.) Non-genetic
 - a. Food: rate (not extent) of absorption decreased
- ii.) Genetic
 - a. Genetic variation in CYP2D6 gene: oral bioavailability 63% in extensive metabolizers; 94% in poor metabolizers

Distribution

- i.) Non-genetic
 - a. Altered serum protein (98% protein bound to albumin)
- ii.) Genetic
 - a. Genetic variation in CYP2D6 gene: slightly lower volume of distribution in poor metabolizers

Metabolism

- i.) Non-genetic
 - a. Concomitant medications/substrates: CYP2D6 inducers or inhibitors
 - b. Moderate to severe hepatic impairment
- ii.) Genetic
 - a. Genetic variation in drug metabolizing enzyme gene: CYP2D6

Excretion

- i.) Non-genetic
 - a. No clear non-genetic factors affecting absorption
- ii.) Genetic
 - a. Genetic variation in CYP2D6 gene: lower clearance (slower elimination), increased elimination half-life in poor metabolizers

Pharmacodynamics

Receptors

- i.) Non-genetic
 - a. Adrenergic receptor agonists: additive effects
- ii.) Genetic
 - a. No clear genetic factors affecting receptors

Transporters

- i.) Non-genetic
 - a. Concomitant medications: norepinephrine transporter inhibitors (additive effects)
- ii.) Genetic
 - a. Genetic variation in norepinephrine transporter gene