Using Secondary Binding Properties to Select a Not So Selective Serotonin Reuptake Inhibitor

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Issue: *Secondary binding characteristics of SSRIs (selective serotonin reuptake inhibitors) can be helpful in selecting which 1 of the 5 agents to prescribe for an individual patient.*

In an earlier BRAINSTORMS,[1] the secondary binding characteristics of the SSRIs were examined. Here we show these graphically for all 5 agents (fluoxetine, sertraline, paroxetine, fluvoxamine, and citalopram). We also propose how such properties can create potential advantages and disadvantages for various patient profiles.[2] Understanding not only the primary action of the SSRIs (namely, serotonin reuptake inhibition) but also how each of the 5 SSRIs differs from one another in the dozen or so secondary pharmacologic actions may assist the prescriber in selecting a specific SSRI to match the clinical profile of an individual patient. At best, these are rules for which there are many exceptions when applied to an individual patient.

REFERENCES

1. Stahl SM. Not so selective serotonin reuptake inhibitors. J Clin Psychiatry 1998;59:343–344
2. Stahl SM. Essential Psychopharmacology. 2nd ed. New York, NY: Cambridge University Press. In press

Matching Each SSRI's Secondary Binding Properties With Patient Profiles

Abbreviations: CYP = cytochrome P450 1A2, 2D6, or 3A4 inhibitor, DRI = dopamine reuptake inhibitor, 5-HT$_{2C}$ = serotonin 2C agonist, GI = gastrointestinal, m-ACh = muscarinic cholinergic antagonist, NOS = nitric oxide synthase inhibitor, NRI = norepinephrine reuptake inhibitor, σ = sigma, OCD = obsessive-compulsive disorder, SRI = serotonin reuptake inhibitor.

Fluoxetine

Potentially MORE advantageous patient profile

- Bulimia/binge eating
- Hypersomnia
- Psychomotor retardation
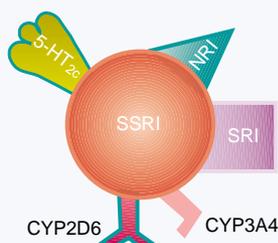
Potentially LESS advantageous patient profile

- Anxiety (short term)
- Panic (initiation of treatment)
- Insomnia (short term)
- Agitation (short term)
- Concomitant treatment with 2D6 or 3A4 drugs

Sertraline

Potentially MORE advantageous patient profile

- Cognition/attention deficit/negative symptoms
- Women (lack of prolactin elevation)
- Children and adolescents (safety profile)
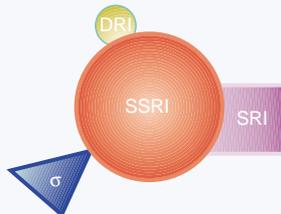
Potentially LESS advantageous patient profile

- Could be overstimulating (short term)
- Anxiety (short term)
- Panic (more titration)

Paroxetine

Potentially MORE advantageous patient profile

- Anxiety (short term)
- Anxiety disorder subtypes (panic, OCD, social phobia)
- Insomnia
- Premature ejaculation
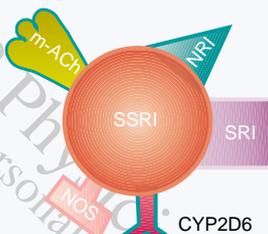
Potentially LESS advantageous patient profile

- Alzheimer's disease
- Cognitive disorders
- Concomitant therapy with 2D6 drugs
- Withdrawal symptoms

Fluvoxamine

Potentially MORE advantageous patient profile

- Anxiety (short term)
- Children and adolescents (safety profile)
- Well-documented efficacy in OCD
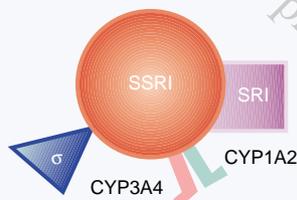
Potentially LESS advantageous patient profile

- Not approved for depression in the United States
- Noncompliance (twice-daily dosing needed)
- GI side effects
- Concomitant treatment with 1A2 or 3A4 drugs

Citalopram

Potentially MORE advantageous patient profile

- Purest SSRI
- No significant drug interactions
- No significant activation/anxiety/ insomnia (short term)
- GI tolerability/irritable bowel
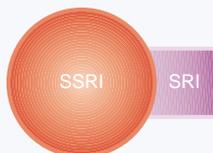
Potentially LESS advantageous patient profile

- Not approved in the United States for OCD, panic, social phobia, bulimia
- Safety in children and adolescents not well documented in the United States