

Reducing CYP450 drug interactions caused by antidepressants

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Most psychiatrists are aware that some antidepressants can cause clinically significant drug interactions, especially through the cytochrome P450 (CYP450) hepatic enzyme system. Antidepressants' potential for drug interactions is especially important for patients who take >1 other medication, including cardiovascular agents.¹

Unfortunately, drug interactions can be difficult to remember and are commonly missed. One strategy to help remember a list of antidepressants with a relatively low potential for CYP450 drug interactions is to use the mnemonic **V**arious **M**edicines **D**efinitely **C**omingle **V**ery **E**asily (VMDCVE) to recall venlafaxine, mirtazapine, desvenlafaxine,² citalopram, vilazodone,³ and escitalopram. The order in which these medications are listed does not indicate a preference for any of the 6 antidepressants. Bupropion and duloxetine are not included in this list because they are moderately potent inhibitors of the 2D6 isoenzyme^{4,5}

A few caveats

There are some important caveats in using this mnemonic:

- None of these antidepressants is completely devoid of effects on the CYP450 system. However, compared with the antidepressants included in this mnemonic, fluoxetine, paroxetine, fluvoxamine, duloxetine, bupropion, and nefazodone are more likely to have clinically significant effects on CYP450.^{4,5}

- Although sertraline has a lower potential for CYP450-mediated drug interactions

at low doses, it is not included in this mnemonic because it may have greater effects on 2D6 inhibition in some patients, especially at higher doses, such as ≥ 150 mg/d.⁵ Also, sertraline may significantly increase lamotrigine levels through a different mechanism: inhibition of uridine 5'-diphosphate glucuronosyltransferase 1A4.⁴

- Antidepressants also may be the substrates for CYP450 drug interactions caused by other medications.

- This mnemonic refers only to CYP450-mediated drug interactions. Antidepressants included in this mnemonic may have a high potential for drug interactions mediated by displacement from carrier proteins—eg, with digoxin or warfarin.

- Pharmacodynamic drug interactions also are possible—eg, serotonin syndrome as a result of combining a selective serotonin reuptake inhibitor with another serotonergic medication.

To remain vigilant for drug-drug interactions, routinely use a drug interaction software, in addition to this mnemonic.

References

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