

Under the Radar

SSRIs and cannabis

CASE

60 year old male, newly diagnosed with major depressive disorder (MDD), other past medical history significant for hypertension, dyslipidemia, and glaucoma. On a background of pre-existing daily cannabis use (out of boredom), he was prescribed escitalopram 10 mg daily for his MDD, which was an appropriate first-line choice.

Shortly after, he started complaining of diarrhea, nausea, appetite loss, and excessive somnolence. His PCN clinical counsellor referred him to clinical pharmacy as an intra-PCN referral to consider a medication cause for this constellation of symptoms. **What is going on here?**



The effects of THC and CBD on the cytochrome P (CYP) system of drug metabolism

Pharmacokinetically speaking, THC can inhibit metabolism of SSRIs through the cytochrome P system (PMID 9871609) and therefore the levels of SSRI in his body could have been higher than in an individual who does not use cannabis. With respect to escitalopram, it is metabolized by the isoenzymes CYP2C19, CYP2D6, and CYP3A4. At a dose of 10 mg daily, this should not cause any acute issues such as serotonin syndrome in the absence of other serotonergic medications (he was on no others), but certainly may have contributed to the unpleasant side effects as described above.

Therefore, it is possible that cannabis can enhance the effect of his SSRI and cause possible side effects like diarrhea and somnolence. Not all SSRIs are metabolized similarly, so pharmacists are uniquely positioned to provide analysis and insight into what could be at play for different drug interactions.

So, what was done?

The clinical pharmacist counselled the patient on the above drug interaction and to try ceasing cannabis use, to which he was agreeable. He was also counselled to shift administration of his escitalopram to bedtime from the morning to mitigate any sedative effects it had on him. By his next appointment, his GI side effects, and excessive daytime sedation had abated.