

Warning About Psychotropic Medications Along with Treatments for COVID-19

By Rajnish Mago, MD ([bio](#))

As of April 5, 2020, there is no specific medication that is known to be effective for COVID-19. But, various medications are being tried off-label. These include:

1. Hydroxychloroquine (brand name Plaquenil®) and chloroquine
2. Antibiotics like azithromycin (brand name Zithromax®)
3. Antiviral medications including (alphabetically) favipiravir, lopinavir/ritonavir combination, remdesivir, and umifenovir.

On this page, I will discuss some important concerns about the use of certain psychotropic medications along with treatments for COVID-19.

Additive risk of QTc prolongation with some psychotropic medications

Hydroxychloroquine, **chloroquine**, and **azithromycin** are known to cause both **QTc prolongation** and **torsades de pointed** (Crediblemeds, 2020; O’Laughlin et al., 2016; Morgan et al., 2013; Chen et al., 2006). Hydroxychloroquine has been associated with serious, even fatal, cardiomyopathy, atrioventricular block, right or left bundle branch block, pulmonary hypertension, and sick sinus syndrome (Plaquenil Prescribing Information). In late March and early April 2020, a cardiologist at a hospital in my area told me that they are seeing many patients with QTc prolongation due to hydroxychloroquine.

Among the antiviral medications, the **lopinavir/ritonavir combination** is known to cause **QT prolongation** and **may cause torsades de pointes** (Crediblemeds, 2020).

There is concern that the **use of these QTc prolonging medications for COVID-19 may lead to a sharp increase in sudden cardiac death, especially when they are used together or with other medications that can also prolong the QTc interval** (Giudicessi et al., 2020). This is where prescribers of psychotropic medications have to be careful because some of our medications may prolong the QTc interval, e.g, ziprasidone (brand name Geodon), iloperidone (brand name Fanapt), quetiapine (brand name Seroquel), citalopram (brand name Celexa), hydroxyzine (brand name Vistaril), and so on. In my experience, clinicians other than mental health clinicians are typically unaware that several psychotropic medications can prolong the QTc interval.

Drug interactions with psychotropic medications?

There are HUGE differences in levels of hydroxychloroquine from one patient to another—up to an 11 times difference (Somers et al., 2000). So, I wondered if psychotropic medications could affect hydroxychloroquine levels by affecting its metabolism.

Hydroxychloroquine is metabolized by multiple cytochrome P450 enzymes, including CYP2D6. Several psychotropic medications are potent inhibitors of CYP2D6 (e.g., fluoxetine, paroxetine). So, could these psychotropic medications increase serum levels of hydroxychloroquine and increase the risks associated with it?

Inhibitors or inducers of cytochrome P450 enzymes did not affect hydroxychloroquine levels (Jallouli et al., 2015). My hypothesis is that this may be because it is metabolized by multiple cytochrome P450 enzymes and, so, is not dependent on any one enzyme.

What about the opposite? Could hydroxychloroquine affect the levels of some psychotropic medications? **Hydroxychloroquine appears to inhibit CYP2D6** and can affect the levels of medications dependent on CYP2D6 for their metabolism (Somers et al., 2000). So, it is at least theoretically possible that **hydroxychloroquine may increase the levels of psychotropic medications that are metabolized exclusively or primarily by CYP2D6**. These include, among others, atomoxetine, paroxetine, risperidone, several tricyclic antidepressants, venlafaxine, and vortioxetine (listed alphabetically).

NOTE: If you are a mental health clinician but not yet a subscriber to Simple and Practical Medical Education, do you want us to intermittently email you some FREE practical tips about mental health treatment? If so, enter your email address at the following link: <https://free-psycho pharmacology-tips.subscribemenow.com>

[*Optional to read:* Data on the effects of cytochrome P450 polymorphisms on hydroxychloroquine levels are contradictory (Lee et al., 2016; Wahie et al., 2011).]