

Which antipsychotic, Seroquel or Zyprexa, is best for the cocaine dependent and psychotic patient?



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Background

- ❖ Cocaine abuse is widely prevalent and growing rapidly
- ❖ Cocaine is frequently associated with psychotic disorders, and patients with these disorders might use cocaine to self medicate^{1,2}
- ❖ Cocaine can exacerbate and hinder treatment in patients with preexisting psychotic disorders and also directly cause psychosis^{1,2}
- ❖ Cocaine increases violent behaviors in psychosis²
- ❖ Antipsychotics may benefit patients with cocaine dependence by reducing cravings, specifically quetiapine (Seroquel)⁶ and olanzapine (Zyprexa)⁷
- ❖ Antipsychotics may exacerbate negative symptoms of schizophrenia²

Case

- ❖ MA is a 29 year old, assigned female at birth, gender non-conforming patient with a cocaine use disorder and co-morbid schizoaffective disorder, bipolar type
- ❖ Patient was brought to the ED by police due to erratic and aggressive behavior at local grocery store
- ❖ Originally on quetiapine 100mg TID switched to 300mg QHS, on which they described feeling overly sedated and lacking in motivation
- ❖ Patient was switched to olanzapine 10mg QHS and described feeling much more awake and motivated to get better
- ❖ Objectively, the patient was more alert, talkative, and discussed future steps in treatment
- ❖ The patient reported decreased cravings for cocaine

Quetiapine vs. Olanzapine

	Quetiapine (Seroquel)	Olanzapine (Zyprexa)
Positive Characteristics	<ul style="list-style-type: none"> - Less likely than olanzapine to cause extrapyramidal symptoms - Cheaper price - Available in pill form, and extended release - Reduces cravings for cocaine¹⁰ 	<ul style="list-style-type: none"> - Available in injection form, as well as dissolving tablet and pill - Reduces cravings for cocaine¹¹
Negative Characteristics	<ul style="list-style-type: none"> - High risk of weight gain and other metabolic disorders, but relatively less than olanzapine - Risk of non-medical use / abuse potential in cocaine users 	<ul style="list-style-type: none"> - Relatively higher risk of causing extrapyramidal symptoms^{8,9} - Highest risk of weight gain and metabolic disorders^{8,9} - More expensive - Risk of non medical use / abuse potential in cocaine users

Cocaine and Antipsychotics

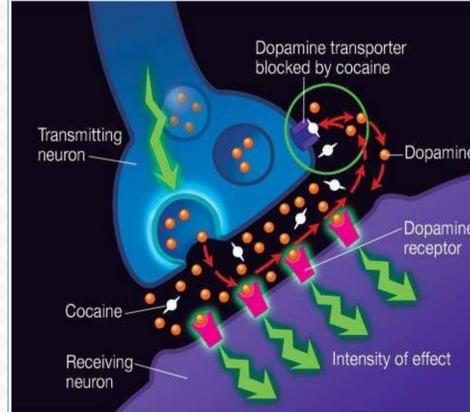


Figure 1: National Institute of Drug Abuse

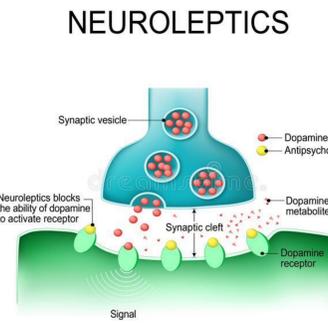


Figure 2: Dreamstime.com – Dopamine and Antipsychotic stock vector

- Quetiapine and olanzapine decrease dopaminergic transmission in the mesolimbic and mesocortical pathways of the brain^{3,4,5}
- Cocaine acts by increasing dopaminergic transmission in these same pathways^{3,4,5}

Mesolimbic pathway:

- Implicated in controlling motivation, reward, and addiction, as well as in causing positive symptoms in schizophrenia^{3,4,5}

Mesocortical pathway:

- Implicated in depression and cognition, and also in the negative symptoms in schizophrenia^{3,4,5}

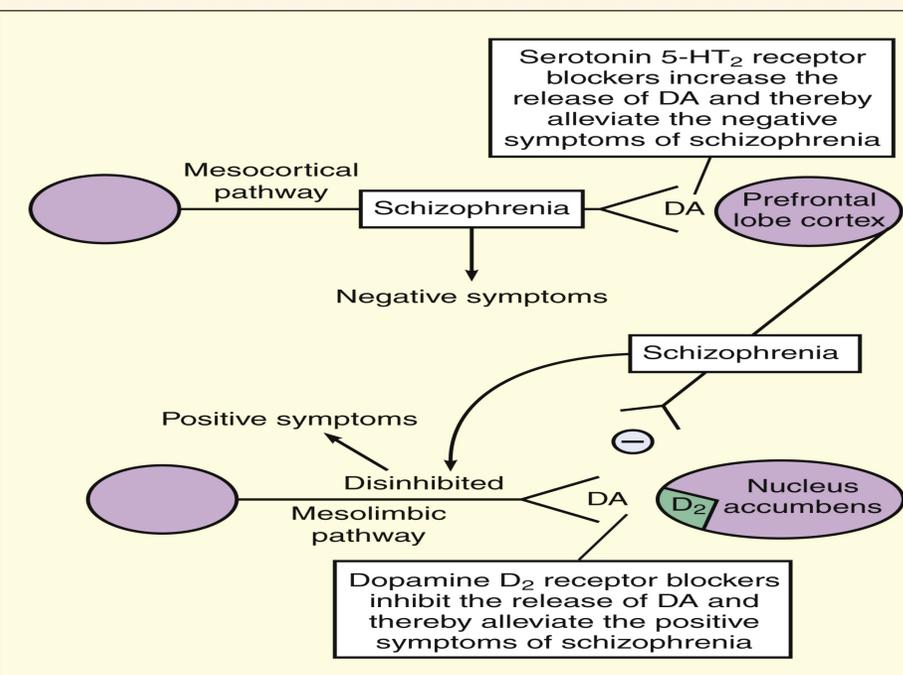


Figure 3: Basic Medical Key - Psychotherapeutic Drugs

Discussion

It is important to take broad and comprehensive approaches in determining which antipsychotic is the best for patients with co-morbid psychotic disorders and cocaine use disorder. Firstly, this is important to consider as treatment of one may support treatment of the other. On the other hand, neglecting one disorder may exacerbate the other. Characteristics that ought to be considered when making these decisions include a patient's metabolic profile, history and degree of substance abuse, financial standing, medication adherence, and other co-morbid illnesses. For instance, patients with higher BMI or preexisting metabolic disorders might benefit from quetiapine due to olanzapine's more significant adverse effects on weight gain and other metabolic issues^{8,9}. Additional considerations to be made involve abuse potential, where quetiapine has been shown to have higher abuse potential and more adverse outcomes when combined with substances like cocaine¹². Lastly, relative levels of sedation must be carefully monitored in patients, as some individuals might have better responses to one drug or the other.

Main Points

- ❖ The similarities between the pathophysiology of psychotic disorders and cocaine use disorder, as well as the close pharmacological ties among cocaine and antipsychotics, are important topics that must be further studied.
- ❖ Addressing one of these co-morbid illnesses is more detrimental to a patient's health than the side effects of the discussed antipsychotics.
- ❖ Antipsychotics ought to be prescribed more carefully due to their potential for abuse. This involves closer monitoring, smaller amounts prescribed at a time, and increased education on potential adverse outcomes.
- ❖ Antipsychotics show promise in alleviating cravings for cocaine and necessitate more research to determine their efficacy in treating cocaine use disorder

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