

# Sustained Remission in Cannabis-Induced Psychosis treated as Schizophrenia

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## Abstract

### Background:

Cannabis-induced psychosis and schizophrenia can present with similar symptoms making difficulties in diagnosis and treatment. We, herein, present a case of 34-year-old male with history of long term use of cannabis. He initially presented with symptoms suggestive of schizophrenia and was treated with antipsychotics. Patient would go in remission but whenever he is exposed to cannabis, would develop psychotic symptoms similar to symptoms of schizophrenia. After getting admitted in the institute, patient received comprehensive treatment focusing on cannabis abstinence and

psycho-education. Over six months, antipsychotic and antidepressant medications were gradually tapered and discontinued. Following cannabis abstinence, the patient exhibited resolution of psychotic symptoms, with sustained remission, improved social engagement, and occupational stability. This case underscores the importance of cannabis abstinence in managing cannabis-induced psychosis overlapping with schizophrenia and demonstrates the potential for recovery without antipsychotic medication when substance use is effectively addressed.

### Keywords:

Cannabis, Psychosis, Schizophrenia, Sustained remission

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## INTRODUCTION

Nearly five million people use cannabis worldwide and due to various reasons consumption is increasing. Frequent use of cannabis is the norm at the current scenario, there are various factors- medical and recreational legalisations, perceived health benefits, popular culture and the most critical childhood exposure has led to increased prevalence of CIPD diagnosis.<sup>1,2</sup> Cannabis is the addictive substance that is used most frequently after alcohol and tobacco. In young individuals without psychosis, cannabis consumption is linked to a decrease in cognitive function, and in early-stage schizophrenia (SCZ), it is linked to a loss of cortical thickness.<sup>3</sup> A proposed neurobiological basis for the detrimental effects of cannabis use in schizophrenia (SCZ) is the interference with endogenous cannabinoid signaling and functioning.<sup>4</sup> Delusions, hallucinations, and disordered speech and thought are characteristics of psychosis. A psychotic disorder is marked by more enduring psychotic symptoms, frequently coupled with other impairment.<sup>5</sup>

Schizophrenia is the most severe psychotic disorder that includes positive psychotic symptoms, negative symptoms, as well as cognitive deficit. Cannabis-induced psychosis can present with symptoms similar to schizophrenia, complicating diagnosis and treatment.<sup>6</sup>

## CASE PRESENTATION :

A 34-year-old male with a 15-year history of chronic cannabis use presented with symptoms consistent with schizophrenia, including paranoid delusions, auditory hallucinations, disorganized behaviors and thinking, impaired attentional and executive functioning and psychosocial dysfunction. He was treated with various antipsychotic medications over four years, starting with olanzapine, trifluoperazine, and amisulpride.

After two years of treatment, the patient developed amisulpride-induced akathisia, benzodiazepine dependence, and olanzapine-induced hyperlipidemia. Consequently, amisulpride and olanzapine were gradually tapered off and discontinued. Aripiprazole, fluoxetine, and alprazolam were added to the regimen. Additionally, fenofibrate, atorvastatin, and ezetimibe were prescribed to manage hyperlipidemia.

Later, quetiapine and nortriptyline were added. Those adjustments in medication results in temporary symptoms remission however the patient's psychotic symptoms recurred intermittently due to ongoing cannabis use. After temporary stabilization, he was transitioned to our center for further management and follow-up. During the time of admission he presented with insomnia.

## TREATMENT AND MANAGEMENT:

The various approaches for treating cannabis use disorder in people with schizophrenia includes the use of medication as well as psychological techniques such as motivational interviewing, cognitive behavioral therapy, contingency management.<sup>7</sup> Antipsychotics (APs), classified into two classes: first-generation antipsychotics (FGAs) and second-generation antipsychotics (SGAs), are the mainstay of psychopharmacological therapy.<sup>8,9</sup> Antipsychotics may also cause distinct side effects.<sup>10</sup>, some of which patients may find upsetting and debilitating.<sup>11</sup> Common side effects include increased prolactin levels in the blood, weight gain, metabolic syndrome, high cholesterol, type 2 diabetes, and extrapyramidal side effects (EPS), all of which could shorten life expectancy. Specifically, FGAs can lead to hyperprolactinemia, heightened disability and stigma related to the condition, and frequent severe motor symptoms such as EPS.<sup>12,13</sup> In comparison to FGAs, SGAs are associated with a reduced occurrence of EPS but an increased occurrence of metabolic symptoms.<sup>14</sup> Upon admission to our center, a comprehensive treatment plan was initiated, focusing on intensive psychoeducation and support aimed at achieving sustained cannabis abstinence. The patient underwent regular psychiatric assessments and monitoring for any signs of symptom recurrence or withdrawal effects. Psychoeducation regarding the risks of cannabis use and the importance of adherence to treatment recommendations was provided to the patient and his family. Over six months, the patient's antipsychotic and antidepressant medications were gradually tapered and discontinued, while fenofibrate, atorvastatin, and ezetimibe were continued to manage hyperlipidemia

## OUTCOMES:

Clinical assessments, including structured interviews along with psycho-education were done in this patient. He had sustained remission after six months of cannabis abstinence. The patient maintained functional well-being, improved social engagement, and occupational stability.

## DISCUSSION:

According to the DSM-5, cannabis-induced psychotic disorder (CIPD) is classified as a type of substance-induced psychotic disorder.<sup>15</sup> Cannabis-induced psychosis and schizophrenia shows similarities in symptoms, making diagnosis and treatment complex, challenging but necessary.<sup>16</sup> Diagnosis of schizophrenia can follow psychotic episodes for a prolonged period of time. It can be differentiated in symptom analysis as well as during intoxication. Increased frequency of cannabis use can result in increased frequency of psychotic disorder. Compared to CIPD, schizophrenia has additional symptoms as well as specific diagnostic criteria. Further reasons for diagnostic challenge is that CIPD & schizophrenia are often correlated and their diagnostic criteria are similar. It will always be difficult to differentiate between CIPD, schizophrenia and other psychotic disorders.<sup>15</sup> Various factors contribute to exponential increment CIPD- frequent consumption<sup>16</sup> high THC cannabis<sup>17</sup>, types of cannabis (smoking, edible, waxes).<sup>(18)</sup>

Similarly, patient in our case report has chronic use of cannabis. After few years of heavy use, patient developed psychotic symptoms, that were similar to schizophrenia. Patient responded with antipsychotics but at the same time abusing cannabis.

Patients with cannabis psychosis substantially differed in terms of behavioral manifestations. Most of these patients were violent and panicky and demonstrated bizarre behavior, but they possessed some insight into the nature of their illness. Patients with schizophrenia manifest these disturbances and characteristics less frequently. Subjects with cannabis psychosis showed rapid ideation and flight of ideas, whereas the characteristic schizophrenic thought-disorder was found mostly in schizophrenic patients. In real case scenario, these theoretical constructs are difficult to prove.<sup>4</sup> Individuals who visited the emergency room (ER) for cannabis-induced psychosis had a 160% higher risk of developing schizophrenia spectrum disorder (SSD) compared to the general population. Three years after their ER visit, 18.5% of those with cannabis-induced psychotic disorders (CIPD) continued to have an SSD diagnosis.<sup>19</sup> Further studies have shown that cannabis use in patients with genetic vulnerabilities are associated with schizophrenia. These studies have proven that there is substantial evidences between cannabis use and schizophrenia having causal relationship<sup>14</sup> Psychosis with cannabis abuse requires a multifaceted approach that includes both medication and psychological techniques.<sup>5</sup>

By prioritizing cannabis abstinence and incorporating tailored psychosocial support, the patient achieved significant improvements in both symptoms and overall functioning. Motivational interviewing (MI), in particular, significantly extends periods of cannabis abstinence and reduces short-term cannabis use more effectively than standard care. Additionally, patients receiving motivational interviewing demonstrate increased confidence and a stronger willingness to reduce their cannabis use.<sup>(20)</sup> Conversely, delaying intensive psychosocial treatment results in more severe negative symptoms compared to delaying antipsychotic medication.<sup>21</sup> The patient's ability to achieve full symptomatic recovery, even after discontinuing antipsychotic medication, suggests that persistent cannabis use was a significant precipitant of their psychosis. This case exemplifies how integrating substance use interventions into the treatment plan for psychotic disorders can lead to more effective and sustained recovery. This correlation can have important public health liability and can have an impact on primary prevention in psychiatry. This is even more relevant in countries like Nepal as there always has been debates regarding legalization of cannabis. The Government of Nepal has already planned for legalization of cultivation of cannabis. Though it claimed for strictly for medical purpose, its future impact will be uncertain<sup>22</sup>

## CONCLUSION:

Consistent and prolonged use of high quality cannabis (high THC) has led to exponential rise in the diagnosis of CIPD, which is further complicated by increased diagnosis in SSD. On the other hand, cannabis consumption has increased every year and it won't have any decrement in coming future. Due to medical and recreational legalisation, harmful use of cannabis and its impact on neuropsychological health have been sidelined, even it's proven impact on CIPD and SSD. Even recent studies have shown causal relationship between cannabis abuse and schizophrenia, where individuals with genetic vulnerabilities have strong link to schizophrenia.

## CONFLICT OF INTEREST:

None

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