



A Case Report On Cannabis Induced Schizophrenia And Chronic Psychosis

Desica D¹, Roshini S², Suryakanth K³, Vimalrajan G⁴

Doctor of pharmacy (Pharm D) Students,
Department of Pharmacy Practice,
Nandha College of Pharmacy, Erode, Tamil Nadu, India

Abstract

Research has reported a case where long-term consumption of cannabis triggered psychosis and schizophrenia. A 19-year-old male patient who had been using cannabis for 3 years developed severe psychotic symptoms after he discontinued his habit. After a year of hospital treatment, his condition improved; however, because he did not take his medication as prescribed, the symptoms had returned nine months later. This case illustrates how chronic cannabis use can dramatically raise the risk of schizophrenia and psychosis. Therefore, in order to promote recovery and prevent relapse, it is imperative to ensure appropriate treatment, encourage cannabis cessation, and offer education and support to the patient and family members.

Key words: cannabis, schizophrenia, psychosis.

INTRODUCTION

Cannabis, derived from the cannabis sativa plant, is commonly called marijuana weed, pot, and ganja. It contains high levels of tetrahydrocannabinol, the major psycho-active ingredient. Long term use of Cannabis has been linked to psychotic symptoms as well as increased risk of developing schizophrenia [1]. Among more than 100 types of cannabinoids, delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD) are the two most well-known and clinically significant, with CBD exhibiting anti-inflammatory properties and THC responsible for altering mind [2] The U.S. Food and Drug Administration has not approved the use of cannabis and cannabinoid products, despite their various therapeutic benefits. FDA-approved synthetic THC drugs, such as dronabinol and nabilone, are used to alleviate chemotherapy-induced vomiting and nausea. It's common to smoke dried plant material (also known as "buds" or "herb") in joints, blunts (cigars or cigar wrappers that have been partially or completely packed with cannabis), or pipes or bongs (water pipes) [3]. Because of its psychoactive component (THC), marijuana users will experience hallucinations or paranoia. Additionally, it interferes with the development of the brain, leading to schizophrenia.

Schizophrenia is a persistent mental condition that only rarely affects children under the age of 13. Symptoms include changes in behavior, thinking, perception, emotion, language, and sense of self. The majority of them suffer from hallucinations, which include hearing voices or seeing unreal things, as well as delusions. It is affecting about 21 million individuals worldwide [4]. According to Rachel B, *et al.*, these case series indicated that long-term use of cannabis can lead to psychosis and schizophrenia as well as worsen pre-existing mental illness. In this study, three people have their first symptoms of psychosis shortly after ceasing heavy cannabis use [5]

CASE REPORT:

A 19-year-old male patient who dropped out of school after ninth grade and is currently unemployed, with no family history of psychiatric disease, had been smoking beedi for three years (3 packs per day). He also has a history of substance abuse (cannabis) that began before 3 years and has been discontinued for the last year, and he has been a known drinker for 3 years, with alcohol cessation occurring before 1 year. Now he has a lack of sleep, has begun to talk himself, has gradually distanced himself from others, has had poor communication with family members for over a year, has lowered his food intake, and his aggressive behavior is in an on and off state. He has also removed his own dress and is roaming. Past medication history: The patient has received treatment for a similar condition over the past three years; however, the treatment has not been consistent.

The symptoms had resurfaced as a result of sporadic treatment throughout the previous nine months. He began using cannabis when he was 15 years old, influenced by his pals. When his parents learnt of the son's substance abuse, they forced or chastised him to stop. Then he began suffering psychotic symptoms, and his family took him to the hospital, where he was treated with risperidone, haloperidol, and THP. Symptoms were controlled with the medication. After 2 years he was irregular in his treatment; he acquired the following symptoms.

The physical examination was normal. A mental state evaluation indicated a kempt individual who was not well groomed, did not keep eye contact, and was consistent with his thought process. There were no abnormalities of cognition, hallucinations, or illusions. His hematological and biochemical indicators, as well as magnetic resonance imaging of the brain, were all normal. His urine routine was likewise within acceptable ranges.

The diagnosis of cannabis-induced persistent psychosis and schizophrenia was confirmed. He was treated with injectable haloperidol (1 cc) and promethazine (2 cc) twice a day for 10 days via IM, however on day two, these two medicines were administered at bedtime. Diazepam tablets (5 mg PO 2-tab HS) were administered for his sleep disturbance. In addition, a tablet of risperidone at a dose of 2 mg twice a day, THP 2mg per day and supportive care were administered. On the first day, he did not cooperate with the injection. He was given 2.5mg olanzapine tablet, and since he was not taking lorazepam, promethazine was administered intramuscularly. His symptoms subsided after two weeks, and his vital signs were stable and discharged with medication. At present. He is currently undergoing acute phase management as an outpatient.

Table 1: Summary of Case Information

Place	Government Erode Medical College and Hospital
Age	19
Gender	Female
Name of the Substance	Cannabis
Symptoms	Sleep disturbance, c/o aggressive behavior on & off, reduced food intake
Occupation	Unemployed
Personal history	Alcoholic and beedi smoker
Diagnosis	Schizophrenia and chronic psychosis
Treatment	Olanzapine 5mg, diazepam 10mg, THP 2mg, risperidone 2mg

DISCUSSION

Long-term use of cannabis leads to psychosis and schizophrenia. Among adolescents and younger adults, cannabis abuse is common. 9-tetrahydrocannabinol, the primary psychoactive compound, exerts its effect by activating CB1 & CB2 receptors in the brain, thereby inhibiting GABA and glutamate release. About 1 in 4 individuals with schizophrenia have a history of cannabis use. Cannabis use is related to a 2-4 times greater risk of developing psychosis in healthy people [6].

Several studies substantiate the dose-dependent association between cannabis usage and psychotic risk. Glutamate signaling, neuroinflammation, and disruption of dopaminergic transmission are the neurobiological processes that underlie cannabis-induced psychosis [7,8]. THC can mimic the alterations seen in schizophrenia by increasing dopamine release in the mesolimbic pathway. Additionally, long-term exposure can change brain regions like the prefrontal cortex, amygdala, and hippocampus, resulting in long-lasting emotional and cognitive problems [9]

Differentiating psychosis from schizophrenia in an individual who is exposed to long-term cannabis use is challenging. When psychotic symptoms appear during or shortly after cannabis intoxication and go away after a period of abstinence, the condition is diagnosed as cannabis-induced psychotic disorder. On the other hand, psychotic symptoms that last longer than six months, along with functional deterioration and typical negative symptoms such as decreased motivation and social withdrawal, are indicative of schizophrenia. Many studies have found that 25-50% of people who consume cannabis can get psychosis then later develop schizophrenia. This correlation implies a complex relationship between substance use and mental health, emphasizing the need for additional research [9-11]. Cannabis abstinence, antipsychotic medicines, motivational enhancement therapy, and cognitive behavioral therapy are used to treat schizophrenia and psychosis, respectively. As a result, resuming cannabis use is a major issue that leads to symptom recurrence, so cannabis use should be discontinued, and they should continue their medication. Attending regular follow-ups will increase therapeutic benefit and improve patient outcomes.

CONCLUSION

Chronic consumption of Cannabis can induce psychotic episodes, if left untreated or irregular treatment will leads to emergence of chronic psychotic disorders like schizophrenia. The strongest link between cannabis consumption and schizophrenia highlights the necessity for taking preventive measures, educating the people about the complication of the substance abuse especially among adolescents and young adults.

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