Cannabis-induced psychosis associated with high potency “wax dabs”

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A B S T R A C T

With mounting evidence that the risk of cannabis-induced psychosis may be related to both dose and potency of tetrahydrocannabinol (THC), increasing reports of psychosis associated with cannabinoids containing greater amounts of THC are anticipated. We report two cases of emergent psychosis after using a concentrated THC extract known as cannabis “wax,” “oil,” or “dabs.”

Mr. A is a 17-year old Latino man with no previous psychiatric history other than recreational cannabis use 1–2 times/week. After 2 years of smoking with no problems, he used cannabis wax “a few times” and over the course of 3 weeks, began to experience paranoid concerns associated with checking the locks of his home, fear of sleeping alone, and getting possessed by Satan. His family brought him to the emergency room, where he appeared confused, disorganized, restless, confused, and disorganized (e.g. shaving his head, wandering naked) such that family negotiated psychiatric hospitalization. Physical examination and routine laboratory studies including urine toxicology screening (UTS) were unremarkable such that Mr. A was admitted to psychiatry. Treatment with risperidone 3 mg/day over the following week resulted in gradual normalization of vital signs along with psychotic symptoms and behavioral control such that he returned to his baseline mental status and was discharged on hospital day (HD) 12. During outpatient follow-up including abstinence from cannabis, risperidone was slowly tapered over a 6-month period and eventually discontinued altogether with no recurrence of psychosis at 13 months.

Mr. B is a 26-year old man with no psychiatric history other than daily smoking of “medical marijuana” recreationally and based on social anxiety and obsesssionality, for which he’d previously received psychotherapy. After using cannabis obtained from a marijuana dispensary daily for 1 year, he transitioned to using wax products (“Fire OG” and “Mystery”) by vaporizer and water pipe. After using wax daily for 18 months, he developed increasing paranoid concerns that he was being “targeted” by Mexican gangs and that he could “see the future.” He became increasingly restless, confused, and disorganized (e.g. shaving his head, wandering naked) such that family negotiated psychiatric hospitalization. Physical exam and routine laboratory tests were normal, except for a UTS positive for cannabinoids. On initial interviews, he displayed significant disorganization, thought blocking, and paranoia prompting treatment with olanzapine 20 mg/day on HD 1 and a change to risperidone 2 mg/day on HD 2. On HD 3, antipsychotic medications were discontinued on suspicion of drug-induced psychosis, but there was little improvement and by HD 7 and 8, the patient experienced two episodes of catatonia with mutism, catalepsy, and waxy flexibility resulting in initiation of lorazepam 2 mg 3 times/day. His catatonia resolved following acute administration of lorazepam and after restarting and titrating risperidone to 4 mg/day, his psychotic symptoms diminished over the next week and were significantly improved by discharge on HD 17. As an outpatient, risperidone was tapered to 2 mg/day at 2-week follow-up and discontinued altogether after a month due to patient preference and with no recurrence of psychosis.

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psychosis. At 2-months post-hospitalization, he remained off antipsychotic medications, abstinent of cannabis, and psychosis free.

Cannabis “wax” is a hyper-concentrated “hash oil” formed by solvent extraction, resulting in up to 90% THC along with residual solvent and pesticides (Raber et al., 2015; Loof and Earleywine, 2014). Users typically inhale a small “dab” by vaporization through a heated glass pipe to achieve a rapid and intense “high.” While manufacture carries a known risk of serious burns (Jensen et al., 2015), the adverse effects of use remain unclear. One survey of wax dabs users concluded no increase in “problems or accidents,” but greater “tolerance and withdrawal” compared to smoking the cannabis plant (Loof and Earleywine, 2014).

In contrast, our cases suggest a psychotic risk with cannabis wax, well beyond mild paranoia and including significant positive symptoms, disorganization, confusion, autonomic arousal, and catatonia. The temporal association between psychosis and cannabis wax in our patients, with no previous or family history and despite over a year of smoking cannabis conventionally without incident, supports a heightened psychotic risk of wax related to THC content. While antipsychotics were helpful acutely, cannabis abstinence allowed discontinuation of medications without psychotic relapse during longer-term follow-up.

“Dabbing” with cannabis wax is becoming increasingly popular in the US for both recreational and “medicinal” intentions (Krauss et al., 2015; Daniulaityte et al., 2015), with popular beliefs that it may be safer than smoking (Stogner and Miller, 2015) or that it can even cure cancer (Romano and Hazekamp, 2013). However, the high THC content of cannabis wax raises serious concerns about its psychotic liability. Together with a previous report of cannabis-induced psychosis associated with “medical marijuana” (Pierre, 2010), Mr. B’s use of wax obtained from a dispensary underscores the importance of understanding this risk by physicians recommending cannabinoids for purported medicinal purposes.

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