



BACKGROUND

- Synthetic cannabinoids have seen more widespread use recently, both due to the cheaper cost as compared to cannabis, and the rise in accessibility of devices to inhale synthetic cannabinoids.
- While they act on similar receptors as cannabis, synthetic cannabinoids produce unique metabolites and often are mixed with other chemical compounds that may cause different adverse events as compared to cannabis. Both cannabis and synthetic cannabinoids have been linked to multiple neurologic, psychiatric, cognitive, and cardiovascular adverse events.
- However, an increase in reports of idiosyncratic adverse events has occurred in light of the increased popularity of synthetic cannabinoids, as well as misperceptions of synthetic THC as a safer alternative to cannabis.
- To elucidate another such adverse event, we report a unique case of synthetic THC-induced acute flaccid myositis.**

CASE DESCRIPTION

After vaping synthetic tetrahydrocannabinol (THC) the prior night, 20-year-old previously healthy male experienced nausea, malaise, and confusion. Over the next five days, he progressed to complete flaccidity, and was found unresponsive, febrile to 105 degrees, and in significant respiratory distress. He required intubation en route to the ED. Infectious and rheumatologic work-up were negative. Urine drug screen was positive for THC. MRI revealed T2 hyperintensities throughout the spinal cord, brainstem, and deep cerebral nuclei.

Given the above work-up and markedly rapid progression of symptoms, he was ultimately diagnosed with quadriplegia due to THC-induced acute flaccid myositis. At a long-term acute care facility, he was weaned off the ventilator and regained some upper extremity strength. He then transitioned to an IRF, where he regained functional ability to dress, eat a general diet, and progressed to ambulation with a walker by discharge.

COURSE

20-year-old, previously healthy male
vapes synthetic THC

Next day

Nausea

Malaise

Confusion

5 days later

Complete flaccidity

Unresponsive

Febrile to 105° F

Respiratory distress

Intubated en route to ED

Infectious & rheumatologic work-up
negative

Urine drug screen
positive for THC

MRI: T2 hyperintensities throughout spinal
cord, brainstem, deep cerebral nuclei

Diagnosis:

Quadriplegia due to THC-induced acute flaccid myositis

Long-term acute care facility

Vent weaning

Acute inpatient rehabilitation

Gained functional ability to dress

Upgraded to general diet

Ambulated with walker by discharge

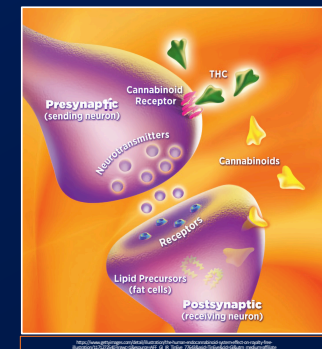
CONCLUSIONS

This case not only raises awareness of a rare and severe potential adverse effect of vaping synthetic THC, but additionally details a remarkable functional recovery facilitated by acute inpatient rehabilitation.

DISCUSSION

Synthetic THC has seen a rise in use in the US, often mistakenly believed to be safer than cannabis. To our knowledge, this is the first documented case of acute flaccid myositis secondary to synthetic THC use.

This phenomenon may have been mediated by synthetic THC's increased potency on cannabinoid receptors, or possibly cross-reactivity by the metabolites of synthetic THC or other unidentified chemical compounds frequently found in synthetic THC products.



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