



TO: Physicians and other health care providers

Please distribute a copy of this information to each provider in your organization.

Questions regarding this information may be directed to the following Region IV health officers:

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Alert categories:

Health Alert: conveys the highest level of importance; warrants immediate action or attention.

Health Advisory: provides important information for a specific incident or situation; may not require immediate action.

Health Update: provides updated information regarding an incident or situation; no immediate action necessary.



Multistate outbreak of coagulopathy from exposure to synthetic cannabinoid products



Action requested

- Maintain a high index of suspicion for vitamin K-dependent antagonist coagulopathy in patients with a history or suspicion of using synthetic cannabinoids. To-date, no cases have been reported in Washington.
 - Patients may present with clinical signs of coagulopathy, bleeding unrelated to an injury or bleeding without another explanation. Some patients may be asymptomatic or present with complaints unrelated to bleeding but have numerical coagulopathy. NOTE: Some patients may not divulge synthetic cannabinoids use.
 - Case confirmation requires detection of brodifacoum in blood, serum, plasma, or urine, as determined by reference laboratory testing. Clinicians and health care providers should work with their health care facility's laboratory to determine what options are available to them for brodifacoum testing.
- Ask all patients about history of illicit drug use. All patients reporting synthetic cannabinoids use or those who are suspected of synthetic cannabinoids use within the last three months, regardless of their presentation, should be screened for vitamin Kdependent antagonist coagulopathy by checking their coagulation profile (e.g., INR).
- Possible cases should be asked if they have recently donated plasma or blood (e.g., in the last three months). Clinicians treating possible cases who have recently donated should notify their local health department, who can then notify the FDA.
- Proceduralists (e.g., trauma/general/orthopedic/oral/OB-GYN/cosmetic surgeons, dentists, interventional cardiologists/radiologists, and nephrologists) should be aware that patients with a history of using synthetic cannabinoids may be anti-coagulated without clinical signs of coagulopathy. These patients should be screened for vitamin Kdependent antagonist coagulopathy prior to their procedure.
- Patients sent home from surgeries or other procedures that could result in bleeding should be told to not use synthetic cannabinoids because of the risk that the product may be contaminated with an anticoagulant.
- Contact Washington Poison Center (1-800-222-1222) for questions on diagnostic testing and management of these patients.
- Promptly report possible cases to your local health department at the number listed below.

General background

Hundreds of different synthetic cannabinoid chemicals are manufactured and sold. Synthetic cannabinoids are used in a variety of ways, including sprayed onto plant material and then

smoked; used in electronic nicotine delivery devices (such as e-cigarettes); and ingested when added to herbal tea or food.

Synthetic cannabinoids are widely available. Consumers can buy synthetic cannabinoids in convenience stores, from individual drug dealers and friends, or online as incense or natural herbal products. They are sold under many different brand names but are commonly referred to as synthetic marijuana, fake weed, legal weed, K2 and Spice. Adverse effects from synthetic cannabinoids use vary and can include neurological (e.g., agitation, confusion), psychiatric (e.g., hallucinations, delusions), and other physical (e.g., tachypnea, tachycardia, gastrointestinal distress) signs and symptoms.

Outbreak background

In March 2018, the Illinois Department of Public Health reported cases of unexplained bleeding among patients who reported using synthetic cannabinoids. Subsequent testing of drug and biological samples from case-patients detected the presence of brodifacoum, a long-acting vitamin K-dependent antagonist that is used as a rodenticide.

The Centers for Disease Control and Prevention is currently coordinating national surveillance activities for possible cases of vitamin K-dependent antagonist coagulopathy associated with synthetic cannabinoids use. Since the index case was identified in Illinois on March 3, 2018, state health departments have reported 202 cases, including five deaths, to CDC. Case patients have been identified in nine states with the majority being reported from Illinois (n=164). Maryland has reported 20 cases. Florida, Indiana, Kentucky, Missouri, Pennsylvania, Virginia and Wisconsin have reported six or fewer cases per state. More than 95 of case-patient biological samples have tested positive for brodifacoum. The current working hypothesis is that brodifacoum was mixed with synthetic cannabinoids products.

Case-patients from this outbreak have presented with a variety of signs and symptoms of coagulopathy (e.g., bruising, nosebleeds, excessively heavy menstrual bleeding, hematemesis, hemoptysis, hematuria, flank pain, abdominal pain and bleeding gums or mouth). In addition, some patients have been asymptomatic or presented with complaints unrelated to bleeding but have had numerical coagulopathy that may put them at risk for bleeding complications resulting from injuries and invasive or surgical procedures. Patients should be considered high-risk for coagulopathy if they have reported use of or are suspected of using synthetic cannabinoids.

The most helpful and commonly available laboratory test to help identify cases is the International Normalized Ratio (INR) that is part of a routine coagulation profile. An abnormal INR is defined as being outside the reference laboratory value, which can vary somewhat among individual laboratories. For case reporting purposes, an INR>2 is being used as a criteria to help identify and classify possible cases.

CDC health alert: https://emergency.cdc.gov/han/han00410.asp

Thank you for your partnership.

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