An unusual case of Cannabinoid Hyperemesis Syndrome

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Introduction: The prevalence of marijuana use has been increased among adults and adolescent in the last years. Recently, a growing number of reports have been published worldwide documenting cases of suspected Cannabinoid Hyperemesis Syndrome (CHS). CHS is characterized by repeated vomiting, nausea, flushing and diaphoresis in patients with chronic cannabis use. Hot showers or bath can relieve symptoms. Cessation of cannabis use result in improvement of clinical symptoms. We describe a patient with occasional THC abuse and passive smoke inhalation.
Case-report: A 18-year-old man presented to the ED with nausea, vomiting, and abdominal pain. Over the course of last two years the patient was evaluated about ten times in the ED with similar complaints. The year before, the patient was already admitted in hospital for evaluation but no organic cause was found. Previous investigations including esophagogastroduodenoscopy and colonoscopy have been found normal. On admission patient was suffering with hyperemesis, bradycardia and diaphoresis. An EKG showed sinus bradycardia and a chest radiograph was unremarkable. Hematological analysis reported leukocytosis. Serological analysis for HAV, HBV, HCV and HIV, urine and feces (Salmonella, Shigella, Campylobacter, C. difficile) coltures were negative. Abdomen radiography was normal, while abdominal ultrasound showed increased parietal colon thickness and free peritoneal liquid. Radiological evaluation were also normal. Treatment with intravenous normal saline and high dose metoclopramide that was ineffective. Bradycardia was reversed with atropine 0.5 mg iv bolus, but recurred after one hour. On toxicological evaluation the patient denied any substance abuse. He admitted only cigarette smoking and cannabis inhalation in very few times in the past. Two hours before onset of symptoms he has smoked one cigarette given by his friend. Urinary screening for substances of abuse was positive for THC. After investigations the patient declared that the cigarette in reality was tobacco with hashish. All symptoms resolved after 24 hours. To confirm the diagnosis of CHS, the patient admitted that on previous occurrences the hot shower had improved symptoms.
Discussion: Cannabinoid hyperemesis is a paradoxic reaction that occurs with long-term cannabis use, resulting in severe nausea, cyclic vomiting, chronic abdominal pain, and compulsive bathing behavior. It often can be missed and confused with various disorders. No clear mechanism has been identified to explain the pathophysiology. One potential mechanism for the toxic effects may involve the CB1 receptors in the gastrointestinal mucosa; cannabinoid stimulation of these receptors is known to suppress peristalsis and gastric emptying in a dose-dependent mannerUntil now in reported cases, regular cannabis use is considered essential for the diagnosis of CHS. In contrast our patient had an occasional use and passive smoke inhalation. Abstinence from cannabis resolves the symptoms completely.
Conclusion: Cannabinoid hyperemesis syndrome can result in repeated visits to the ED. Although cessation of cannabinoid use is the only known way to prevent recurrence, efficient symptom management in the ED could help to decrease ED visits, time in ED, and rate of admission in these patients. Cannabinoid hyperemesis should be considered in younger patients with cannabis use and recurrent nausea, vomiting, and abdominal pain. The timing, location, and characteristics of symptoms can be helpful in determining the diagnosis of CHS, and patients should be asked about the relief of symptoms with hot water bathing. With the relatively high prevalence of cannabinoid use and increasing interest in the use of marijuana for therapeutic purposes, physicians should be aware of the potential for this syndrome.