A Rare Case of Acute Pancreatitis Associated with Cannabinoids Consumption

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Introduction: Acute pancreatitis is an inflammatory condition of the pancreas characterized by abdominal pain and elevated levels of pancreatic enzymes in the blood. Acute pancreatitis is a leading gastrointestinal cause of hospitalization in the United States. Several conditions are associated with acute pancreatitis, of which gallstones and chronic alcohol use disorder account for approximately two-thirds of the cases. Others, including smoking, hypertriglyceridemia, infections, trauma, drugs, malignancy, scorpion stings, hypercalcemia, endoscopic retrograde cholangiopancreatography (ERCP), opioids, angiotensin-converting enzyme (ACE) inhibitors, macrolides, diuretics, statins, and cannabis have also been associated with acute pancreatitis. Cannabis is the most widely used recreational drug worldwide, with over 4% of the world's population using it annually.

Case Presentation: A 21-year-old female with no medical history presented to the ER due to acute epigastric abdominal pain. The patient states that she began experiencing acute epigastric abdominal pain, waking her up in the morning. She describes the pain as constant in duration, sharp/stabbing in character and 8/10 in intensity. Her abdominal pain was associated with nausea but no vomiting. She has a history of appendectomy and denies the use of any medication or over-the-counter supplements. She has consumed Marijuana daily for the past few months but denies any other illicit drug use. She states that she drinks alcohol in minimal amounts.

She denies fever, chills, diarrhea, constipation, sick person contacts, or recent travel. On physical exam, she was in severe pain but alert and oriented. Vital Signs showed temp. 36.4C, pulse 60 bpm, BP 100/64, O2 sat. 99%. The abdominal exam was significant for epigastric tenderness but no guarding or rebound tenderness and normal bowel sounds.

Laboratory work showed normal complete blood count (CBC), and basic metabolic panel (BMP), negative troponin level, lipase was elevated at 596 U/L (N 15-53 U/L), triglyceride level was 55 mg/dL (N 50-150 mg/dL), and serum calcium level was 8.8 mg/dL (N 8.7-10.4 mg/dL). The urine drug screen was positive for Cannabinoids.

Initial ultrasound of the abdomen showed a normal gallbladder. CT of the abdomen and pelvis with contrast showed no acute abnormality within the pancreas. Diagnosis of acute pancreatitis was made. Still, the etiology of the patient's pancreatitis was not apparent. The patient was treated with a bowel rest and IV fluid with morphine for pain. The pain improved after a couple of days, and she could tolerate a regular diet. She had no complications during her hospitalization and was discharged the following day.

Conclusion: Cannabis is an unusual cause of acute pancreatitis. There is a paucity of information about how cannabinoids interact with receptors in the pancreas to cause acute pancreatitis. Few cases of cannabis-induced acute pancreatitis have been reported since the legalization of cannabis consumption. Physicians and health care providers must be aware of such complications associated with cannabinoid consumption and warrant further large-scale studies for possible pathophysiology and outcomes.

Keywords: acute pancreatitis, cannabis, cannabinoids, tetrahydrocannabinol, THC