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(CASE REPORT)

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Cannabis and Delayed Diagnosis of Neglected Peritonitis: A Case Report

Hager BOUCHNAFATI *, Talha LAALOU, Abderrahmane MANSOURI, Hamza HAMDANI, Asmae HAMDANI, Abdejlil MDAGHRI, Said BENAMAR, Rahal MSSROURI and Mohammed HAMID

Department of Digestive Surgery B, Ibn Sina University Hospital, Mohammed V University in Rabat, Morocco

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Abstract

Background: Acute appendicitis is the leading cause of surgical abdominal emergency in young patients. However, chronic cannabis use may alter pain perception and mask the severity of clinical presentation. We report the case of a young patient with misleading clinical signs despite generalized peritonitis.

Case presentation: A 19-year-old male, chronic heavy smoker and cannabis user, was initially admitted for mild abdominal pain. After a first emergency visit, he was discharged home. One week later, he was readmitted with the same complaints. Laboratory tests revealed leukocytosis (19,000), elevated CRP (259 mg/L), renal failure, hypokalemia, and hyponatremia. CT scan showed massive intra-abdominal effusion and a borderline appendix (7 mm). Exploratory laparotomy revealed 3 liters of pus, false membranes, interloop abscesses, and both a perforated appendix and perforated Meckel's diverticulum. An extended ileocecal resection with double stoma and abdominal drainage was performed. Postoperative recovery required intensive care unit (ICU) admission with a favorable outcome.

Conclusion: Cannabis use may attenuate abdominal symptoms, delaying diagnosis and management of surgical emergencies. This case highlights the importance of detailed toxicological history in young patients.

Keywords: Cannabis; Appendicitis; Meckel's Diverticulum; Peritonitis; Abdominal Pain; Case Report

1. Introduction

Acute appendicitis remains the most common surgical abdominal emergency in young patients. Typically, diagnosis is straightforward, but atypical presentations may be challenging. Cannabis use, increasingly widespread, exerts both analgesic and psychotropic effects, altering pain perception and potentially masking disease severity. We present a case illustrating the role of cannabis in delaying the diagnosis of peritonitis.

2. Case Presentation

A 19-year-old male, chronic heavy smoker and cannabis user, with a paternal history of end-stage renal failure on chronic hemodialysis, and no personal medical or surgical history, presented with mild diffuse abdominal pain. Clinical examination was unremarkable, and he was discharged home.

One week later, he returned with the same complaints, now associated with dehydration and nausea (without vomiting). On admission, he was conscious, hemodynamically and respiratory stable. Abdominal examination revealed diffuse tenderness with mild distension, but no signs of bowel obstruction. Laboratory results showed leukocytosis (19,000), elevated CRP (259 mg/L), renal failure (urea 2.89 g/L, creatinine 26 mg/L), hypokalemia (1.9 mmol/L), and

* Corresponding author: Hager BOUCHNAFATI

hyponatremia (120 mmol/L). Other parameters were unremarkable. Contrast-enhanced abdominal CT (after adequate rehydration) revealed abundant diffuse peritoneal effusion and a borderline appendix (7 mm).

Given the lack of clinical improvement and worsening biological parameters, exploratory laparotomy was performed. Intraoperative findings included approximately 3 liters of purulent fluid, diffuse false membranes, interloop abscesses, a gangrenous appendix, and a perforated Meckel's diverticulum. An extended ileocecal resection including the perforated diverticulum with double stoma was performed, along with abundant saline lavage and wide abdominal drainage.

Figure 1 Intraoperative image showing a perforated Meckel's diverticulum and a swollen appendix perforated at its base

Intraoperatively, the patient required norepinephrine support. Postoperatively, he was admitted to ICU for 5 days due to delayed awakening and drug withdrawal syndrome. Management included triple antibiotic therapy, analgesics, gastric protection, and parenteral nutrition. Evolution was favorable, with a clean surgical wound and functional stoma.

Figure 2 Specimen photograph showing an ileocecal resection including the perforated Meckel's diverticulum

3. Discussion

This case illustrates the discrepancy between poor clinical presentation and the severity of intra-abdominal lesions, likely influenced by chronic cannabis use and benzodiazepine consumption.

Chronic cannabis use is probably responsible for symptom attenuation, delaying consultation and masking severity. Benzodiazepines, acting on CB1 and CB2 receptors, exert a central nervous system depressant effect by enhancing GABA activity, modulating pain pathways, and reducing visceral pain perception. Literature reports that cannabis alters nociception, modifies pain-related behavior, and delays medical decision-making.

It is plausible that the patient initially presented with uncomplicated appendicitis that could have been treated earlier with less morbidity. However, delayed diagnosis related to cannabis and benzodiazepine use allowed disease progression to perforated appendicitis and generalized purulent peritonitis. The septic environment likely contributed to secondary ischemia and fragility of the Meckel's diverticulum, leading to its perforation. Thus, the association of dual digestive perforations (appendicular and diverticular) was a direct consequence of delayed management, largely favored by the masking effect of cannabis and benzodiazepines.

Hemodynamically, their depressant effects may have worsened instability induced by septic shock, explaining the intraoperative need for vasoactive drugs. Postoperatively, drug accumulation may also have contributed to delayed awakening and the requirement for prolonged ICU stay.

Therefore, cannabis–benzodiazepine association not only masked initial severity but also complicated the clinical course of this young patient.

4. Conclusion

Cannabis, increasingly common among young people, can mask clinical signs of abdominal surgical emergencies, potentially endangering patient prognosis. Toxicological history should systematically be included in the evaluation of atypical abdominal pain.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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