

A Systematic Review of Cannabis-Induced Acute Pancreatitis: Is “HASH”ing Out the New Increasingly Common Culprit of Pancreatitis?



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Introduction

- Cannabis is the most frequently used illicit drug in the world. Grant et al. first reported cannabis induced acute pancreatitis (AP) in 2004.
- However, after the legal or decriminalized status of cannabis in almost half of the United States, AP could be increasingly recognized in clinical practice.
- This systematic review aims to increase community awareness by summarizing available clinical evidence on cannabis-related AP.

Methods and Materials

- A systematic search of MEDLINE, Embase, Scopus, and Cochrane was conducted for English-only articles, published between inception and June 15, 2022.
- Abstracts from major gastroenterology conferences and bibliography lists of relevant studies were also screened.
- Search terms were “cannabis” and “acute pancreatitis” with all available permutations.
- The diagnosis of AP was made by fulfilling 2 of the 3 criteria of the Revised Atlanta Classification.

- Cannabis-induced AP was designated by active cannabis use based on physician or patient reports, or urine drug testing, and the exclusion of alternative causes of AP.
- Three authors reviewed each paper for eligibility. The search resulted in 298 hits, but 34 articles fulfilled the inclusion criteria, dating from 2004 to 2022

Results

- A total of 37 patients with cannabis-induced AP were identified. The mean age of patients was 29.66 ± 10.24 years (range: 16-48 years), with 86% of patients being below age 35.
- In terms of gender distribution, 89% of cases were reported in males.
- A temporal relationship between cannabis use and AP onset or cannabis cessation and AP symptom resolution was noted in 64% of patients.
- Most patients had no comorbidities, and alternative causes were meticulously excluded.
- Cannabis relapse and recurrent AP were found in 36% of cases.
- In 32% of patients, cannabis cessation resulted in no recurrent AP.

Naranjo Adverse Drug Reaction Probability Scale

Questions	Yes	No	Do not know	Patient's score
1. Are there previous <i>conclusive</i> reports on this reaction?	+1	0	0	+1
2. Did the adverse event appear after the suspected drug was administered?	+2	-1	0	+2
3. Did the adverse reaction improve when the drug was discontinued or a <i>specific</i> antagonist was administered?	+1	0	0	+1
4. Did the adverse event reappear when the drug was re-administered?	+2	-1	0	+2
5. Are there alternative causes (other than the drug) that could on their own have caused the reaction?	-1	+2	0	+2
6. Did the reaction reappear when a placebo was given?	-1	+1	0	
7. Was the drug detected in blood (or other fluids) in concentrations known to be toxic?	+1	0	0	+1
8. Was the reaction more severe when the dose was increased or less severe when the dose was decreased?	+1	0	0	+1
9. Did the patient have a similar reaction to the same or similar drugs in <i>any</i> previous exposure?	+1	0	0	
10. Was the adverse event confirmed by any objective evidence?	+1	0	0	
Total score				10

Note: A score of <1 is doubtful, 1–4 possible, 5–8 probable, and >9 is definitive for adverse drug reaction.

Table 1: Naranjo assessment scale depicting a score of 10 in the case of cannabis-induced pancreatitis; A score of <1 is doubtful, 1–4 possible, 5–8 probable and >9 definitive for adverse drug reaction.

Conclusion

- We reiterate that the cannabis use can be an underdiagnosed etiology for AP.
- The pathogenesis of this causal relationship remains controversial. Notably, cannabis-related AP has often been encountered in young patients. This trend has clear clinical implications as cannabis status changes may exorbitantly increase the occurrence of AP in coming years.
- Therefore, clinicians should remain cognizant of AP in cannabis users, especially young patients presenting with abdominal pain. Toxicology screening may aid in early diagnosis
- Naranjo score can help in causality assessment (Table 1). Permanent cannabis cessation is imperative in avoiding recurrent AP.