

CITATION

Pourmand A, Esmailian G, Mazer-Amirshahi M, Lee-Park O, Tran QK. Topical capsaicin for the treatment of cannabinoid hyperemesis syndrome, a systematic review and meta-analysis. *Am J Emerg Med.* 2021;43:35-40.

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- Cannabinoid hyperemesis syndrome (CHS) is a condition that is being recognized and treated more frequently in emergency departments (EDs) across the United States. Currently, ED providers rely on antiemetics, antipsychotics and benzodiazepines to alleviate the symptoms. Topical capsaicin, a transient receptor potential vanilloid 1 (TRPV1) agonist, has been proposed in recent years as a low-cost and effective alternative to the traditional antiemetic regimen when treating CHS.
- Although some treatments for CHS exist, these remedies may pose risks to the patient. For example, currently used antipsychotics, such as Haldol may lead to excessive sedation and prolong the QT interval
 - o Capsaicin has well tolerated nature, topical route of administration, and low cost. Capsaicin is fat soluble, and therefore is absorbed rapidly through the skin (half-life is 24 h)
- **Purpose:** The current meta-analysis sought to evaluate capsaicin's efficacy in the treatment of CHS and its impact on the utilization of hospital resources and CHS patients' LOS in the ED .
- **Method:** 2020 Systematic review that assessed the efficacy of non-operative options for rotator-cuff injuries
 - o 7 studies were included with over 100 patients.
 - o Our primary outcome was the prevalence of hospital admissions among patients who were treated with capsaicin. Secondary outcomes included the time intervals from capsaicin administration and symptom relief and length of stay in the ED (ED LOS).

RESULTS

- Among the 7 studies, there was a total of 106 patients. Two studies reported time to resolution of symptoms following capsaicin administration and ED LOS. Means for these outcomes were 325 (95% CI 234–787) and 379 (95% CI 10–747) minutes respectively
- 1 cohort found use of capsaicin cream decreased total medications administered and reduced opioid requirements: 2/3 of patients required no further treatment prior to discharge
- In a separate retrospective cohort study of 201 patients with CHS, capsaicin cream was associated with greater efficacy for symptom relief than other treatments but was not associated with lower rates of admission or return emergency department
- **OVERALL → Despite the availability of various treatment modalities, the most effective treatment for CHS is still the cessation of cannabis use, and this should be reiterated to patients accordingly. Given capsaicin's long half-life in peripheral tissues, resolution to symptom relief still takes time after application. Thus, capsaicin could possibly be used as a bridge therapy for cannabis cessation.**

CLINICAL BOTTOM LINE

- In summary, as more states in the US legalize or decriminalize the public's use of cannabis (medical or recreational), ED's will be faced with treating the effects of chronic cannabis use such as CHS. Current treatments with various side effect profiles exist for CHS, but their mechanisms of alleviating CHS symptoms are not well understood.
 - o An emerging treatment for CHS with low adverse effects, topical capsaicin appears to be an effective alternative treatment for CHS with acceptable time to symptom relief and ED LOS.
 - o Further studies should be conducted to examine whether capsaicin may be the more advantageous treatment for CHS in the ED and possibly other care settings.