Show Notes
EMS LHP Episode 35: Capsaicin Cream and Cannabinoid Hyperemesis Syndrome

Citation:

Dean DJ, Sabagha N, et al. A Pilot Trial of Topical Capsaicin Cream for Treatment of Cannabinoid Hyperemesis Syndrome. *Acad Emerg Med*. 2020;

Abstract:

Objectives: Patients with cannabinoid hyperemesis syndrome (CHS) present frequently to the emergency department. Previous case studies suggest dramatic symptomatic improvement with topical capsaicin treatment. This exploratory study examined the potential effectiveness of topical capsaicin in patients with nausea and vomiting due to a suspected CHS exacerbation.

Methods: This was a double-blind, randomized placebo-controlled pilot trial. Adults who presented with vomiting suspected to be from CHS were eligible for enrollment. We excluded pregnant women and those with resolution of symptoms. Following randomization, topical 0.1% capsaicin or placebo cream was applied to the anterior abdomen in a uniform manner. The primary outcome was the severity of nausea on a visual analog scale (VAS) of 0 to 10 cm assessed at 30 minutes. Secondary outcomes were adverse events, occurrence of posttreatment vomiting, nausea by VAS at 60 minutes, and hospital admission.

Results: This pilot trial enrolled 30 patients, 17 in the capsaicin arm and 13 in the placebo arm. One patient in the capsaicin arm did not tolerate treatment due to skin irritation. Mean +/- SD nausea severity at 30 minutes was 4.1+/- 2.3 cm in the capsaicin arm and 6.1 +/- 3.3 cm in the placebo arm (difference = "2.0 cm, 95% confidence interval [CI] = 0.2 to "4.2 cm). At 60 minutes, mean +/- SD nausea severity was 3.2 +/- 3.2 cm versus 6.4 +/- 2.8 cm (difference = "3.2 cm, 95% CI = "0.9 to "5.4 cm). The percent reduction in nausea at 60 minutes from baseline was 46.0% in the capsaicin arm and 24.9% in the placebo arm (difference = 21.1%, 95% CI = "5.6% to 47.9%). A higher proportion of capsaicin group patients (29.4% vs. 0%) had complete resolution of nausea (relative risk = 3.4, 95% CI = 1.6 to 7.1).

Conclusion: In this pilot trial, the application of topical capsaicin cream was associated with a significant reduction in nausea at 60 minutes but not at 30 minutes and provided more complete relief of nausea.

Figure 1:

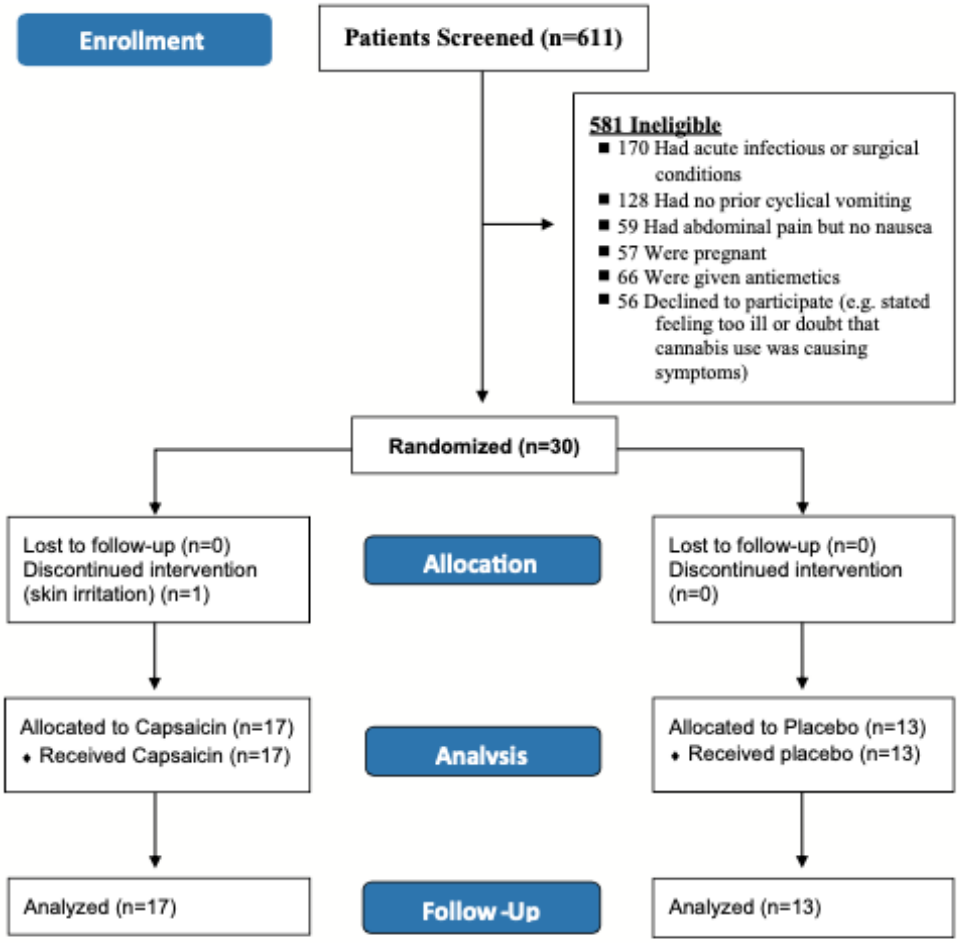

Figure 1. Flow diagram of enrollment.

Table 1:

Table 1
Characteristics of Study Participants

	Capsaicin (n = 17)	Placebo (n = 13)	Overall (n = 30)
Age (years)			
Mean (±SD)	35.4 (±15.3)	27.5 (±5.2)	32.0 (±12.5)
Sex			
Female	10 (58.8)	5 (38.5)	15 (50)
Ethnicity			
Hispanic or Latino	0	0	0
Race			
White	1 (5.9)	1 (7.7)	2 (6.7)
Black or African American	15 (88.2)	12 (92.3)	27 (90)
Other	1 (5.9)	0	1 (3.3)
Past medical history			
Hypertension	6 (35.3)	3 (23.1)	9 (30)
Diabetes mellitus	2 (11.8)	1 (7.7)	3 (10)
Migraine	0	0	0
Gastroesophageal reflux	2 (11.8)	1 (7.7)	3 (10)
Renal calculi	2 (11.8)	0	2 (6.7)
Peptic ulcer disease	1 (5.9)	0	1 (3.3)
Irritable bowel syndrome	0	0	0
Cannabis use			
Daily	9 (52.9)	10 (76.9)	19 (63.3)
Weekly	4 (23.5)	2 (15.4)	6 (20.0)
<Weekly	3 (17.6)	1 (7.7)	3(13.3)
Never	1 (5.9)	0	1 (3.3)
Baseline nausea			
VAS (cm)	6.0 (±2.9)	8.5 (±2.0)	7.1 (±2.8)
ED antiemetic treatment			
Prior to randomization	3 (17.7)	4 (30.8)	7 (23.3)

Data are reported as mean (±SD) or n (%).
VAS = visual analog scale; sBP = systolic blood pressure

Table 2:

Table 2
Primary and Secondary Outcomes

	Capsaicin (n = 17)	Placebo (n = 13)	p-value
Nausea VAS (cm)			
30 minutes	4.1 (2.8–5.4)	6.1 (4.1–8.1)	0.075
60 minutes	3.2 (1.6–4.8)	6.4 (4.7–8.1)	0.007
% Reduction at 60 minutes	46.0 (25.5–66.5)	24.9 (7.8–41.9)	0.116
Vomiting after study drug			
Within 30 minutes	1 (5.9)	4 (30.8)	0.138
Within 120 minutes	1 (5.9)	5 (38.5)	0.061
Rescue antiemetic medications			
Within 30 minutes	0	4 (30.8)	0.026
Within 120 minutes	3 (17.6)	5 (38.5)	0.242
Hospital admission	4 (23.5)	5 (38.5)	0.443

Data are reported as mean (95% CI) or n (%).
VAS = visual analog scale.