



Research Week 2021

Cannabinoid Utilization in Fracture Clinic; A Prevalence Study of Formulation and Delivery Modalities

Trevor Barronian, MD; Emelia Soddors, MA; Travis Philipp, MD; James Meeker, MD; Zachary Working, MD; Darin Friess, MD
Barronia@ohsu.edu
Orthopaedic Resident

Keywords

Pain management, Orthopaedic trauma, Marijuana, THC, CBD

Abstract

Background:

Across the US 15% of adults report recent use of marijuana. Such non-prescribed drug use may impact fracture care and multi-modal pain strategies, but we have little estimate of how many fracture patients are using marijuana.

Methods:

A cohort study was designed to determine the prevalence of marijuana use in fracture care patients, including the administration route and product type (cannabidiol (CBD) or Tetrahydrocannabinol (THC)). Over a 12-month period treating ~2100 Orthopaedic Trauma patients (Oregon, academic, Level 1 trauma), a cohort of 149 patients completed written or electronic pain management surveys at post-injury clinic. The survey asked patients for frequency of use of NSAIDs, acetaminophen, opioids, CBD and THC, administration routes, and their perceived effect on pain control.

Results:

A cohort of patients in the post-fracture period finds a prevalence of 87% using NSAIDs, 89% Acetaminophen, 85% Opioids, 23% CBD, and 15% THC. Patients show wide prevalence of THC administration routes – 26% inhaled, 21% ingested and 4% topical. CBD also had a wide distribution: 11% inhaled, 32% topical, 20% ingested. A 2x2 square was used to determine the odds ratios of “improved pain control” in patients exposed to inhaled THC (0.69), ingested THC (2.07), inhaled CBD (1.64), ingested CBD (1.85) and topical CBD (0.87). The reported “most effective pain control” was opioids (43%) while oral NSAIDs (30%) also demonstrated significant preference. THC (11%) was perceived as “most effective” more frequently than acetaminophen (6%).

Conclusion:

Both CBD and THC products are used by fracture patients as part of a pain control regimen via a variety of administered routes. These values are similar in prevalence to overall state of Oregon population cannabinoid use (19%). Patients who use either CBD or THC had improved odds ratio of perceived “improved pain control”. More patients felt THC was beneficial than acetaminophen.