Exploring the Impact of Prior Cannabis Use on 90-Day Complications Following Foot and Ankle Procedures: A Comprehensive Analysis and Clinical Implications

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INTRODUCTION:
With the rising prevalence of cannabis consumption among individuals undergoing foot and ankle procedures, there is a critical need for a comprehensive investigation into the impact of cannabis use on post-operative outcomes. The shifting societal attitudes towards cannabis, coupled with legislative changes promoting increased accessibility, underscore the urgency of understanding the implications for both patients and surgeons. This study aims to address this gap in knowledge and provide insights that can guide pre-operative evaluations and post-operative care planning. We hypothesized that cannabis use would be associated with an increased risk of medical and surgical complications following foot and ankle procedures.

METHODS:
Utilizing data from a national insurance claims database from 2010 to 2022, patients who underwent interphalangeal fusion, arthrodesis, arthroscopy, total ankle arthroplasty, ankle fracture repair, lateral ankle ligament reconstruction, calcaneal tendon repair, bunionectomy and calcaneal osteotomy were identified. These patients with prior history of cannabis use were propensity-matched with a cohort without prior history of cannabis use based on age, sex and Charlson Comorbidity Index in a 1:4 ratio. Both cohorts were evaluated for 90-day occurrence of medical complications using univariate analysis.

RESULTS:
In this study, 27,514 patients with a history of cannabis use undergoing foot or ankle procedures were matched with 1,441,366 without a cannabis use history. Those with prior cannabis use showed significantly elevated rates of the following medical conditions compared to controls: pneumonia (3.7% vs. 1.8%, $p<0.001$), deep vein thrombosis (1.0% vs. 0.6%, $p<0.001$), pulmonary embolism (0.4% vs. 0.2%, $p<0.001$), myocardial infarction (1.2% vs. 0.7%, $p<0.001$), stroke (1.4% vs. 0.7%, $p<0.001$), surgical site infections (2.4% vs. 1.2%, $p<0.001$), acute kidney injury (4.4% vs. 2.3%, $p<0.001$), urinary tract infections (6.5% vs. 3.6%, $p<0.001$), sepsis (3.2% vs. 1.5%, $p<0.001$), and hypoglycemia (0.8% vs. 0.3%, $p<0.001$). Cannabis users also showed an increased incidence of several surgical complications, including nerve injury (0.12% vs 0.06%, $p<0.001$) and infection (4.9% vs 3.2%, $p<0.001$).

DISCUSSION AND CONCLUSION:
This study highlights a compelling correlation between prior cannabis use and heightened risks of medical and surgical complications following foot and ankle surgeries. The findings emphasize the imperative for healthcare professionals to include cannabis use history in pre-operative assessments and post-operative care planning. Acknowledging the evolving landscape of cannabis use among surgical patients, further research is essential to refine clinical approaches and enhance patient outcomes in this context.