Cannabinoids/Recreational Substances

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1

No relevant disclosures

2

Learning objectives

- Understand illicit drug use among US adults
- Discuss the perioperative risks of drug use
- Review the recent ASRA consensus guidelines on perioperative management of patients using cannabis and cannabinoids.

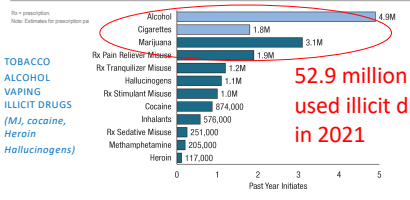
3

Case scenario

- 55 yo male patient
- Scheduled for major hernia repair
- PMH: 4 back surgeries, PTSD and GAD
- Continuing back and leg pain
- On regular oxycodone (60 MME) for pain
- Smokes Marijuana daily (5-10)

4

Past Year Initiates of Substances among People Aged 12 or Older: 2018



TOBACCO
ALCOHOL
VAPING
ILLICIT DRUGS
(MJ, cocaine, Heroin Hallucinogens)

52.9 million people have used illicit drug of some kind in 2021

SAMHSA: Substance Use and Mental Health Services Administration

5

What do patients say…

Emotional stability

Work

Ability to Socialize

Reduces suffering

6

"To certain people, cannabis is a drug with evil consequences, a gateway to even worse drugs, to be condemned with full force of the law. To others, cannabis offers benign escape from reality that is less harmful"

Dr Mather, Univ of Sydney 2001

"Most people, medical, legal or lay, it seems, have a viewpoint"

7

Cannabis refers to products of the plant Cannabis sativa

Endocannabinoids | Phytocannabinoids | Synthetocannabinoids

Widespread neuronal activity affecting many biological functions throughout the body
Ex: learning, eating and emotional processing

THC

CBD

Delta-9 Marinol (schedule 3)
Delta-8

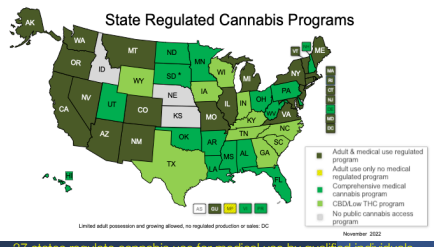
CBD products (except Epidiolex) are not FDA approved so there are no standards on content, purity or potency.

May contain contaminants such as THC during manufacturing.

Antiepileptic
Anti-inflammatory
Analgesic
Use in Neurological disorders

8

State Regulated Cannabis Programs



37 states regulate cannabis use for medical use by qualified individuals

10 states allow the use low THC and high CBD products

NCSL: National Conference of State Legislatures

9

Schedule 1-Federal classification: Criminal penalty for production, distribution and possession.
RESEARCH GAP

- **All cause mortality**
  - There is insufficient evidence to support or refute a statistical association between self-reported cannabis use and all-cause mortality.
- **Occupational injury**
  - There is insufficient evidence to support or refute a statistical association between general, nonmedical cannabis use and occupational accidents or injuries.
- **MVA**
  - There is substantial evidence of a statistical association between cannabis use and increased risk of motor vehicle crashes.
- **Overdose injuries and death**
  - There is insufficient evidence to support or refute a statistical association between cannabis use and death due to cannabis overdose.
  - There is moderate evidence of a statistical association between cannabis use and increased risk of overdose injuries among pediatric populations in U.S. states where cannabis is legal.

The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research. National Academies Press 2017

10

Cannabis Use:
Should we stop asking patients?

- **As of March 2021, at least 40 pharmaceutical companies are engaged in manufacturing of cannabis related products**
- *Enrollment in medical cannabis programs is on the rise approx. 4.5 fold (2016-2020)
- ***In January 2023, FDA issued a statement that a new regulatory pathway will be developed for CBD and stated that they will watch marketplace and will take action "within our authorities" if needed**

11

Perioperative risks of Cannabis use

- Negative effects of cannabis: chronic bronchitis, minor cognitive effects, psychosis
- Studies have shown that cannabis users have higher incidence of PONV (~20%) and in acutely intoxicated patients drug interactions can occur
- Some evidence suggests that h/o drug use is associated with poorer outcomes (increased pain, longer stays, more post operative complications and 5-fold increase in mortality.

Best MJ et al. *J Arthroplasty* 2015;30:1137-41
Volkow ND *et al. N Engl J Med Overseas Ed* 2014; 370:2219-27
Webb CW *et al.* Hawaii J Med Public Health 2014;73:109-11
National Academies of Sciences, 2017

12

Cannabis as medicine

- Body wasting condition (appetite stimulant), glaucoma, chemotherapy induced nausea, multiple sclerosis, epilepsy and intractable pain, especially when conventional treatment have failed.
- Chronic pain is the most common reason for medical cannabis certification nationwide (>65%)

13

Cannabis and Chronic Pain

- Approximately 3 million patients are already using medical cannabis for chronic pain
- Over 1700 chronic pain patients surveyed (36 states, medical marijuana program)
- 31% reported using cannabis (24% in the last 30 days)
- More than 50% of them were using concurrent prescription drugs (opioids etc)
- Less than 1% reported that cannabis use increased their use of prescription drugs
- Other reported positive effects:
  - 39% said that they use less PT to manage pain
  - 26% decreased use of CBT

"pain patients do not have many options to manage their pain, so they seek unregulated products-one should know what effects are produced at different doses and concentrations"
-Romero-Sandoval

Bicket MC, Stone EM, McGinty EE. Use of cannabis and other pain treatments among adults with chronic pain in US states with medical cannabis programs. JAMA Netw Open. 2023;6(5):e2269797.

14

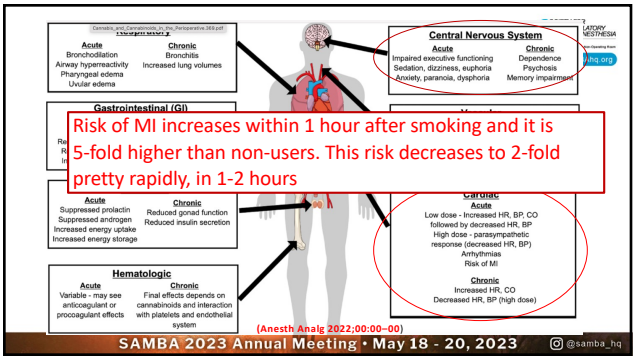
Perioperative cannabis use: a longitudinal study of associated clinical characteristics and surgical outcomes

Jenna McAfee,[1] Kevin F Boehnke,[1] Stephanie M Moser,[1] Chad M Brummett,[1] Jennifer F Waljee,[2] Erin E Bonar[3,4]

- Prospectively looked at 1335 adults undergoing elective surgery
- 6% reported cannabis use (20% recreational and 25% medical and recreational)
- Chronic pain was most common (91%) reason for cannabis use
- Cannabis users reported: Preoperatively worst pain, more centralized pain, worse functional impairment, higher fatigue, sleep disturbance anxiety and depression
- 27% were on opioids and 19% benzos
- At 3 and 6 months post: cannabis users continued to report worse clinical symptoms but beyond that both groups did not differ on outcomes, implying cannabis did not affect long-term recovery

Reg Anesth Pain Med 2021; 46:137-144

15



16

ASRA Pain Medicine consensus guidelines on the management of the perioperative patient on cannabis and cannabinoids

Shalini Shah [1], Eric S Schwenk [2], Rakesh V Sondekoppam [3], Hance Clarke [4], Mark Zakowski,[5] Rachel S Rzasa-Lynn,[6] Brent Yeung,[7] Kate Nicholson,[8] Gary Schwartz,[9,10] W Michael Hooten [11], Mark Wallace,[12] Eugene R Viscusi [2], Samer Narouze [13]

Shah S, *et al. Reg Anesth Pain Med* 2023;**0**:1–21. doi:10.1136/rapm-2022-104013

17

- Should we screen preoperatively:
  - 28 studies (>65 k patients) did not show any benefits/harms of screening
  - Screening-ask if use is recreational or medicinal purpose, type, dose, frequency
  - Preoperative drug testing is not currently recommended unless clinically indicated
- To stop or continue cannabis preoperatively and / or postpone surgery
  - As cannabis regulation continues to change, a local guideline may be necessary because of the effects that it may impair cognition and ability to give consent. Cognition is impaired in both recent and chronic heavy users. Evidence suggests that most executive functions return by 5-6 hours after inhalation of THC-9
  - Given the risk of MI, conservative recommendation is to avoid smoking cannabis 72 hr prior to surgery
  - Driving ability returns by 5-7 hours after inhaling cannabis
  - Postpone surgery if acutely intoxicated.
- Cannabis withdrawal postoperatively and its management
  - High index of suspicion if patient smokes >1.5 G or 20 mg THC per day
  - Can present as disrupted sleep, increased pain, changes in opioid use and agitation
  - Consider gabapentin(1200 mg) and/ or dronabinol and nabilone

18

- Concomitant use of cannabis and opioids (pre and postoperative considerations)
  - THC use has a biphasic response-low dose can decrease pain and opioid consumption while high/chronic use can increase perioperative pain levels-Evidence: MODERATE
  - Recommendations: High users should be counseled about negative effects of cannabis while low dose, medicinal use likely has a lower risk profile
- Do cannabis users require special consideration during intraoperative management
  - Regular cannabis users require higher doses of propofol (RCT:Flisberg et al Eur J of Anaesth 2009) 109 mgs vs 69 mgs
  - Consideration should be given to dose of anesthetic agents depending on the timing and concentration of cannabis use.
- Do patients taking preoperative cannabinoids require any special postoperative considerations?
  - Increased vigilance but no special monitoring
  - Use multimodal analgesic approach due to increased risk of higher opioid requirement

19

Bottom line is….

If patient appears intoxicated, do a drug screening test and reschedule surgery as appropriate. Explain the reasons behind canceling surgery to the patient and family.

20

Future

Clinical Practice Guidelines for Cannabis and Cannabinoid-Based Medicines in the Management of Chronic Pain and Co-Occurring Conditions

Alan D. Bell,[1] Caroline MacCallum,[2] Shari Margolese,[3] Zach Walsh,[4] Patrick Wright,[5] Paul J. Daeninck,[6,7] Enrico Mandarino,[3,8] Gary Lacasse,[5,*] Jagpaul Kaur Deol,[9] Lauren de Freitas,[10] Michelle St. Pierre,[4] Lynne Belle-Isle,[5] Marilou Gagnon,[11] Sian Bevan,[12] Tatiana Sanchez,[4] Stephanie Arlt,[10] Max Monahan-Ellison,[13] James O'Hara,[14] Michael Boivin,[15] and Cecilia Costiniuk[16–18,*]; and External Review Panel[†]

Recommend the use of CBM as monotherapy, replacement or adjunct treatment for management of chronic pain

2023

21

Summary

- Understand pharmacology of cannabis and potential risks in the perioperative period because increasing number of your patients are taking and will continue to take
- Providers lack robust evidence to make informed decisions about potential effect of cannabis on perioperative risks and postoperative outcomes
- Self reported outcomes are great, but trials haven't shown that, so we need longitudinal well controlled studies to establish evidence, but some states are ahead of the science.
- Listen and be ready to have difficult conversations with patients- "the kind of talk medical school did not prepare you to do"

22

Thank you

23

- **Sold under several names "K2" "spice" "crazy monkey" "chill out" "spice diamond"**
- **Delta 8: Typically manufactured from CBD and produces psychoactive effects. It is structurally different from Delta-9 THC**
- **Toxicity: Hallucinations, delirium, agitation and acute psychosis are common with Synthetics than Cannabis**
- **Rapid UDS will not DETECT synthetic metabolites**

24