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approach to pain management. She does a significant amount of teaching in chronic pain across the country and is a physician assessor for the College of Physicians and Surgeons of both Ontario and Newfoundland & Labrador. She chairs a subcommittee for the National Opioid Use Guideline Group. She is a member of the Canadian Academy of Pain Management and the Canadian Pain Society. She is a committee member of the CFPC community of practice in chronic pain. She is an Associate Clinical Professor of Family Medicine at McMaster University and former Chief of Family Medicine at St. Joseph's Healthcare in Hamilton, Ontario.

MEDICAL CANNABIS AND DE-PRESCRIBING

We are all aware of the importance of limiting the number and quantity of medications a patient takes to minimize adverse effects. Many studies show significant risk of drug interaction when a patient is taking more than 5 medications, and this is compounded in the elderly. Recent research shows that more than 90% of patients are willing to stop a medication if their doctor says it is possible.¹

We see many patients asking about the use of medical cannabis as a means of assisting them with stopping or decreasing doses of existing medications. Like most research with medical cannabis, much of the evidence is from observational studies, surveys of cannabis users, and small trials. Some of the more compelling evidence is still in the animal study stage and it will be years before we have high quality randomized controlled human trials completed.

Thus, the evidence and information in this article represent the current available evidence, opinion of experts and, perhaps most importantly, patient experience.

THE BODY OF EVIDENCE IS GROWING THAT SHOWS THAT MEDICAL CANNABIS MAY DECREASE THE AMOUNT IN MORPHINE EQUIVALENT DOSES OF OPIOIDS NEEDED TO CONTROL PAIN

CHRONIC PAIN

Preclinical animal trials certainly show a sparing effect of less opioid use with cannabis use.² Other factors from preclinical studies include colocalization of opioid and endocannabinoid receptors in the septum striatum, periaqueductal area, and amygdaloid nucleus. These studies show that tetrahydrocannabinol (THC)-based cannabinoids prevent development of tolerance to and withdrawal from opiates.^{3,4} Cannabinoid receptors might also interrupt signalling in the opioid receptor systems, thus affecting both cravings for opiates and withdrawal severity.⁵ Studies are underway in addiction centres looking at cannabis as a tool to potentially help opioid addiction.

Expert opinion: Patients can often significantly decrease or stop their opioid dose. Try weaning patients to the lowest possible level either in conjunction with starting cannabis or once the effective cannabis dose is reached. Patients will typically be able to self-regulate how quickly they do this, which is likely based on genetic differences (as yet not well defined), personal preferences, and their comfort levels.

Patient experience: Some patients using medical cannabis are able to discontinue or decrease not only opioids but gabapentinoids, muscle relaxers, sleep medications, and benzodiazepines, and maintain good control of their pain.

ANXIETY AND STRESS

The most common self-reported reasons for cannabis use are chronic pain, anxiety, stress, and insomnia.⁶

Expert opinion: Experienced users commonly report multiple benefits from their cannabis use. We are in the very early stages of recruitment for large-scale human studies with legal source cannabis strains, but patients currently using ingested oils report calming effects without euphoria with low-dose use of cannabidiol (CBD) and/or balanced CBD to THC strains.

Patient experience: Experienced cannabis users (those using long term and prior to legalization), tell us that they did not use cannabis to get high but rather to calm themselves down, and to help them cope with anxiety and stress, which often helped them sleep better. Many of them failed or were unable to tolerate traditional medications. These users typically report that 1 joint would often last them 2 or 3 days. These are patients who have now chosen to go with safer options and have moved to legal source ingested oils or vaping. Additionally, many of them use smaller doses and report fewer euphoric or dysphoric effects.

INSOMNIA

As cannabis is multimodal in its actions, patients using it for pain, post-traumatic stress disorder (PTSD), and mood disorders often report improved sleep. The Health Canada 2018 systematic review looked at the evidence for the use of cannabinoids for the management of insomnia.⁷ The review states, “Human experimental data suggests cannabis and THC have a dose-dependent effect on sleep—low doses appear to decrease sleep onset latency and increase slow-wave sleep and total sleep time, while high doses appear to cause sleep disturbances. Limited evidence from clinical studies also suggests that certain cannabinoids (cannabis, nabilone, dronabinol, nabiximols) may improve sleep in patients with disturbances in sleep associated with certain chronic disease states.”⁷

The National Academies of Sciences, Engineering, and Medicine’s 2017 systematic review also provides some evidence for the role of cannabis in insomnia.⁸ “There is moderate evidence that cannabinoids, primarily nabiximols, are an effective treatment to improve short-term sleep outcomes in individuals with sleep disturbance associated with obstructive sleep apnea syndrome, fibromyalgia, chronic pain, and multiple sclerosis.”⁸

Expert Opinion: Many patients are using benzodiazepines and “Z” drugs for insomnia, both of which affect the

sleep centres of the brain and potentiate the risk of central sleep apnea. Being able to stop or decrease dosing of these medications is safer and allows for deprescribing. Anecdotally, many patients report improvement in sleep disturbances when they start nabilone or medical cannabis for other medical reasons. Patients will often report best effect with low-dose THC, with or without CBD, taken in the evening. For the older patient, CBD alone may be enough to improve sleep.

Patient experience: Surprisingly, many patients on long-term benzodiazepines and “Z” drugs are able to stop them with the use of low-dose THC or even CBD-based products. As already mentioned, the multimodal benefit of cannabis helps their pain, sleep, and mood allowing for fewer prescription medications.

POST-TRAUMATIC STRESS DISORDER (PTSD)

Many of the most commonly used PTSD pharmacotherapies (e.g., selective serotonin reuptake inhibitors and serotonin and norepinephrine reuptake inhibitors) have relatively poor efficacy.⁹ There is a link between experiencing a traumatic event and increased cannabis use.¹⁰ Individuals with PTSD may be especially likely to use cannabis to alleviate the PTSD symptoms of nightmares, flashbacks, hyperarousal, and distress. Chronic stress is hypothesized to create a “hypocannabinergic state” that results in impaired fear extinction (as is seen in PTSD), and this state can be alleviated with CB1 receptor agonists.⁷

Expert Opinion: Always ask your patients why and for what symptoms they are using cannabis if they are using it non-medically. For those who are using medical cannabis, it is still very useful to be sure and to ask about possible PTSD symptoms. These patients can have very effective treatment without needing to add in antidepressants and antipsychotics. The caution is risk and assessment for cannabis use disorder,¹¹ as these patients may be more at risk of higher dose use (greater than 5 g/day).

Patient experience: War veterans, in particular, tell us they use cannabis to diminish the symptoms of PTSD. They and others with PTSD also report improved sleep, the ability to calm themselves, and that it helps with concentration and overall mood. Many of them report only using cannabis as they had such poor response to many trials of medications.

CARDIOVASCULAR DISEASE (CVD), HYPERTENSION, DIABETES, ADULT EPILEPSY

Evidence of a statistical association between cannabis use and the triggering of an acute myocardial infarction (AMI) (cannabis smoking), ischemic stroke, or subarachnoid hemorrhage is limited. As well, there is limited evidence of decreased risk of metabolic syndrome and diabetes, and increased risk of prediabetes. No evidence exists to support or refute a statistical association between chronic effects of cannabis use and the increased risk of AMI.⁸ To date, there are no reported human trials relating to diabetes or epilepsy.

Expert Opinion: Patients may report lowering of blood pressure (BP), a known side effect of cannabis. Caution needs to be used with any patient with unstable cardiovascular disease and, if there is uncertainty, discuss with their cardiologist. All patients should be told to remain on existing medications for any chronic CVD, metabolic, or seizure disorder.

Patient experience: Adults frequently report being able to lower BP medications when they have reached stable dosing of medical cannabis. The same can be seen with some diabetics advising us of improved sugars. Some poorly controlled epileptic patients and their family members have reported fewer seizures.

CONCLUSION

Be sure to use medical cannabis wisely by following appropriate guidelines, assessing your patient's condition, risk of harm, and risk of misuse. Document your assessment, rationale for using cannabis, and any concerns you have, to ensure best practices.

We are at a very exciting place at the beginning of good clinical research into many of the conditions noted in this article. As time progresses, we will get answers to the many potential benefits of medical cannabis. In the meantime, listen to your patients, ask what benefits they see, and what is working for them.

Not every patient will benefit from medical cannabis. As with many drugs, patients will respond differently based

on their genetics and biopsychosocial environment. Some will have excellent results, others will get some response, and there will be a cohort where cannabis does not help.

If you are able, have your patients join a cannabis registry either with a licensed producer or through a provincial registry where they can document some of the uses, dosing strains, and effects of their cannabis.

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