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Igor P. Saffier, Claudia C.A. Palmeira

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BJAN-D-20-00237_Letter to the Editor

Medicinal cannabis: new challenges for the anesthesiologist

Igor P. Saffier, Claudia C.A. Palmeira*

[a] Universidade de São Paulo, Hospital das Clínicas, Faculdade de Medicina, São Paulo, SP, Brazil

[b] Universidade de São Paulo, Hospital das Clínicas, Faculdade de Medicina, São Paulo, SP, Brazil

***Corresponding author**.

E-mail claudia.palmeira@hc.fm.usp.br (C.C.A. Palmeira).

ORCID ID:

Cláudia C.A. Palmeira - https://orcid.org/0000-0002-3508-1512

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Dear Editor,

Recent years have witnessed a growing debate on using medicinal Cannabis for the treatment of several medical conditions, given its wide-range therapeutic effects and some research having shown favorable results for its use, such as for difficult control epilepsy disorders, patients with nausea and vomiting resulting from chemotherapy, some psychiatric disorders as anxiety, and for controlling cancer and non-cancer pain.[1-3]

Medicinal Cannabis refers to the medicinal use of the plant and its components for medical treatment using some of the active components with pharmacological properties and has been used for millennia. The major components used are δ9-Tetrahydrocannabinol (THC), the major component presenting psychoactive action on the Central Nervous System (CNS), and Cannabidiol (CBD), cannabinoid acids, cannabinol, cannabigerol and cannabivarins, components with pharmacological properties on the CNS, but without psychoactive action. The concentration and quality of THC and CBD depend on the plant lineage and type of cultivation.[2-4]

In this scenario, it is of interest to anesthesiologists to access a wider range of options to control pain, given these professionals are also responsible for analgesia,

especially those trained in pain and working in the specialty. When taking into account relevant issues in pain control, especially side effects due to the chronic use of opioids, and in the pursuit of parsimonious use, medicinal cannabis can be helpful in this scenario, given it presents less severe side effects such as opioid related respiratory depression, as the use of cannabinoids does not pose a risk of the complication.[1,5]

The major effects of cannabinoids are through their action on Cannabinoid receptors (CB), which can be type 1 (CB1), located in the central nervous system, mainly in the frontal cortex, basal ganglia and cerebellum, in addition to spinal cord, adipocytes, gastrointestinal tract, thyroid, adrenal glands, gonads and immune cells; or type 2 Canabinoid receptors (CB2), expressed mainly in immune cells, CNS glial cells and peripheral tissue.[2,4]

THC is a partial agonist of type I (CBD I) and type II (CBD II) cannabinoid receptors, which acts on multiple conditions and symptoms, such as pain, nausea, spasticity, appetite stimulation, and is also responsible for the psychotropic effects of the plant. Cannabidiol (CBD), in turn, has no psychoactive effects, has low direct affinity to these receptors, and works as a negative allosteric modulator of CB1, which attenuates the side effects of THC, in addition to exerting its action on serotoninergic receptors, producing analgesic, anti-inflammatory, anxiolytic and antipsychotic effects.[2,5]

In 2015, a systematic review with a metanalysis concluded that there is moderate evidence to the use of cannabinoids to treat chronic pain and spasticity, and that there is low evidence for the treatment of chemotherapy induced nausea and vomiting, for weight gain in patients living with immunodeficiency syndrome, sleep disorders and Tourette Syndrome, although the authors concluded that there is very little quality work available.[3] Neuropathic pain is the most studied pain disorder in clinical trials with cannabinoids, with evidence showing mild to moderate efficacy to attain a 30% reduction in pain intensity.[1,3-5]

Despite the evidence of the benefits described above, in Brazil cannabinoid use in medical practice is still incipient, unlike some countries such as Israel, Australia, Canada and some parts of the United States, where using the substance is already part of the medical armamentarium to control cancer and non-cancer pain. The use of CBD has been authorized currently in Brazil, and is prescribed mainly for difficult control epilepsy, as is the reduced concentration of THC, given the substance is responsible for the psychotropic effects of medicinal cannabis and therefore still has legal barriers to its

authorization in higher doses, which already is the case of the countries mentioned above.[1,4,5]

Based on the exposed, and as cannabinoid use has shown itself as a new therapeutic option for pain control, we cannot neglect the importance of anesthesiologists who work with pain to be updated on the use of the substance and have it in the range of options to offer their patients, if they deem it favorable. It is also indispensable that, as more in-depth knowledge on the topic arises, our colleague anesthesiologists be inspired to develop new studies in the country, given the literature available is still scarce and limited, enabling a wide horizon in this field.

Conflicts of interest

The authors declare no conflicts of interest.

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