Clinical Note

A Case Series of Patients Using Medicinal Marihuana for Management of Chronic Pain Under the Canadian Marihuana Medical Access Regulations

Mary E. Lynch, MD, FRCPC, Judee Young, RN,
and Alexander J. Clark, MD, FRCPC
Pain Management Unit (M.E.L., J.Y.), Queen Elizabeth II Health Sciences Center, and Department of Psychiatry (M.E.L.), Dalhousie University, Halifax, Nova Scotia; and Chronic Pain Center (A.J.C.), Calgary Health Region, and Department of Anesthesia (A.J.C.), University of Calgary, Calgary, Alberta, Canada

Abstract

The Canadian Marihuana Medical Access Regulations (MMAR) program allows Health Canada to grant access to marihuana for medical use to those who are suffering from grave and debilitating illnesses. This is a report on a case series of 30 patients followed at a tertiary care pain management center in Nova Scotia who have used medicinal marihuana for 1–5 years under the MMAR program. Patients completed a follow-up questionnaire containing demographic and dosing information, a series of 11-point numerical symptom relief rating scales, a side effect checklist, and a subjective measure of improvement in function. Doses of marihuana ranged from less than 1 to 5 g per day via the smoked or oral route of administration. Ninety-three percent of patients reported moderate or greater pain relief. Side effects were reported by 76% of patients, the most common of which were increased appetite and a sense of well-being, weight gain, and slowed thoughts. Limitations of the study include self-selection bias, small size, and lack of a control group. The need for further study using controlled trials is discussed along with an overview of the MMAR program. J Pain Symptom Manage 2006;32:497–501. *© 2006 U.S. Cancer Pain Relief Committee. Published by Elsevier Inc. All rights reserved.*

Key Words

Marihuana, cannabis, cannabinoids, chronic pain, spasticity, appetite stimulation

Introduction

Canadian studies have identified that 15% of patients presenting to tertiary care pain management centers have used, and 10% continue to use, cannabis for pain control.[1] Fourteen percent of patients presenting to a multiple sclerosis clinic use cannabis for

Address reprint requests to: Mary E. Lynch, MD, FRCPC, Director of Research, Pain Management Unit, Queen Elizabeth II Health Sciences Center, 4th Floor Dickson Center, Room 4086, Halifax, Nova Scotia B3H 1V7, Canada. E-mail: mary.lynch@dal.ca

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symptom control, and 29% of these patients report moderate to complete relief of pain, which they attributed to cannabis.[2] A further survey of the general population in Canada identified that pain is one of the most frequently cited reasons for using medical marihuana.[3]

The Canadian Marihuana Medical Access Regulations (MMAR) program was formally launched on July 30, 2001. For two years before the launch of MMAR, Canadians were permitted to apply for an Exemption to Section 56 of the Criminal Code to possess marihuana for medicinal purposes. Thus, legal access to medicinal marihuana has been available in Canada for approximately 6 years.[4]

The MMAR program allows patients to apply for a license to possess marihuana for medicinal purposes where traditional therapies have been tried and have been found to be inadequate in relieving patient suffering. As of April 7, 2006, 1,399 persons had received authorization to possess marihuana for medicinal purposes, 1,005 persons are allowed to cultivate or produce marihuana for personal medicinal use, and 829 physicians in Canada have supported applications by patients.[4]

This is a report on a case series of 30 patients followed at a tertiary care pain management center in Nova Scotia, who have used medicinal marihuana for 1–5 years under the MMAR program.

Methods

Patients in this case series suffered from chronic severe pain that had not responded to traditional medical approaches, including combinations of conventional pharmacotherapies and exposure to interdisciplinary services offered at a tertiary care level pain management center (e.g., physiotherapy, psychology, modality-based therapies, nerve blocks, and attendance in an interdisciplinary group for pain self-management). Once authorized under the MMAR program, patients were followed at least annually.

Patients were asked to complete a structured follow-up questionnaire. The questionnaire was given to all patients approved under the MMAR program followed at our clinic. All of these patients participated ($n = 30$). The questionnaire was completed during a follow-up appointment or was sent by mail.

The questionnaire contained demographic and dosing information, a series of 11-point numerical symptom relief rating scales, a side effect checklist, and a subjective measure of improvement in function. The questionnaire took approximately 15 minutes to complete.

Results

The mean duration of follow-up was 23.6 months, for those on whom information was

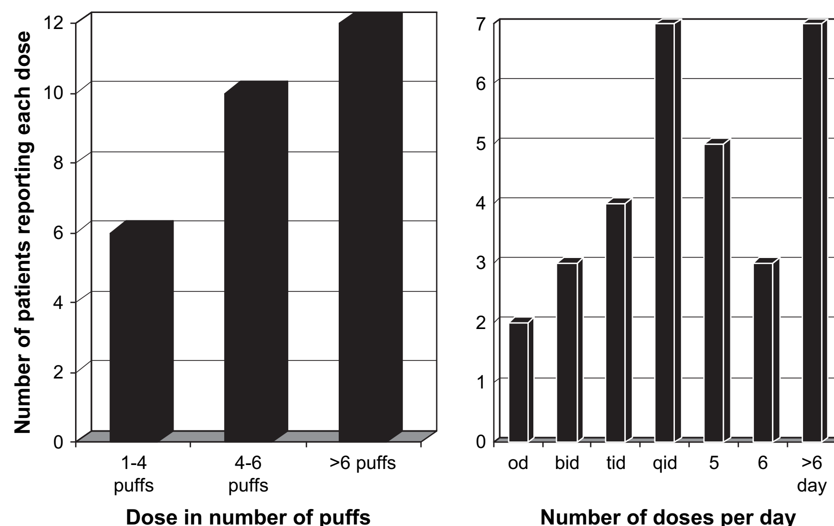

Fig. 1. Doses and frequency of medicinal marihuana reported by 28 patients using smoked cannabis.

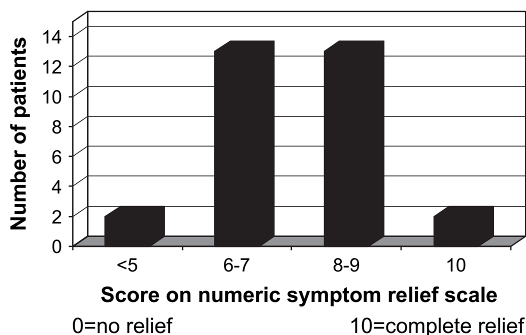

Fig. 2. Magnitude of pain relief according to numeric pain relief rating scale.

available regarding original approval under the MMAR ($n = 27$). The mean age of patients was 45 years (range: 31–61 years), and included 18 men and 12 women. Pain diagnoses included neuropathic pain (14), arthritis (3), chronic low back pain (4), fibromyalgia (2), multiple sclerosis (3), and 4 with other types of pain (congenital multiple exostosis, lupus, migraine, and temporal-mandibular joint and myofascial pain).

Doses of marihuana ranged from less than 1 to 5 g per day (average dose 2.5 g per day). All patients reported using the smoked route some of the time, nine used both the smoked and oral routes, and two reported using the oral route primarily. Regarding the smoked route, 16 patients reported using less than 6 puffs/dose and 12 patients reported using more than 6 puffs/dose. The frequency ranged from once per day to more than 6 doses per day (Fig. 1). For those using the oral route, the majority ($n = 7$) reported using 1 g or less per dose, one patient reported that she did not know the dose, and one patient did not answer this question.

On the 11-point numeric pain relief rating scale (where 0 = no relief and 10 = complete relief), 28 patients (93%) reported pain relief greater than or equal to 6/10 (Fig. 2). Patients also reported moderate to complete relief in other symptoms. Specifically, 10 patients reported moderate to complete relief of spasticity, 22 relief of poor sleep, 14 relief of poor appetite, 13 relief from nausea and vomiting, 11 relief from anxiety, 8 relief of mood difficulties, and two reported moderate to complete relief of bladder spasm (Fig. 3).

Side effects were reported by 23 patients (76%). These included increased appetite (18), a sense of well-being (12), weight gain (7), slowed thoughts (7), fatigue or tiredness (6), rapid heart rate (4), decreased energy (3), confusion (2), anxiety (2), and paranoia (2). Patients reported that the benefits of using marihuana outweighed the side effects in every case. In five of the seven who gained weight, this was a positive side effect because these patients had lost weight due to severe pain. Fifteen patients (70%) were able to decrease use of other medications that had been causing side effects (e.g., NSAIDs, opioids, and antidepressants). There were no serious adverse events reported that were judged to be related to the use of marihuana.

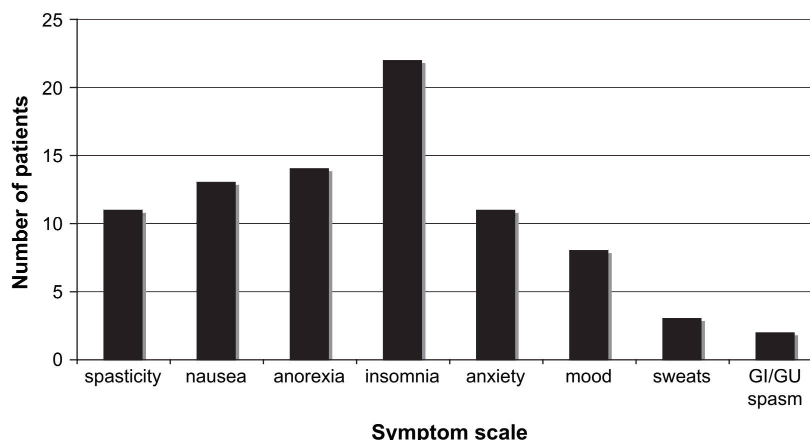

Fig. 3. Number of patients reporting moderate to complete relief (5–10/10) of other symptoms according to numeric symptom relief scales.

On the subjective measure of improvement in function, 95% of patients reported subjective improvement in function; the remaining 5% noted no change in ability to function. No patient reported a worsening in ability to function. Many patients gave examples regarding how their ability to function was improved. These included improvements in concentration, ability to move, ability to participate in family activities and to feel a part of the family, and improved level of function regarding housework, yard work, and wage earning work.

Fifty percent of patients reported previous recreational use of marihuana at some point in their lives.

Discussion

This report presents descriptive data on 30 patients followed at a tertiary care pain management center in Halifax, Nova Scotia, who have been using medicinal marihuana under the Canadian MMAR program for 1–5 years. Similar to the findings in a previous survey study of 15 patients, participants reported effects on pain, sleep, mood, and other symptoms, as well as functional status with the use of marihuana for therapeutic purposes.[5] The current report extends these findings to a larger group and differs in that only patients using marihuana under the MMAR program were included.

This is a descriptive survey and is limited by self-selection bias, small size, and the lack of a control group. Thus, results should be interpreted with caution. The fact that 50% of patients reported previous recreational use at some point in their lives may contribute to selection bias. An open case series does not allow one to draw conclusions regarding efficacy, and the retrospective estimation of pain score before starting marihuana (as required in determining degree of relief) is unreliable. In addition, more detailed long-term studies, which include specific safety parameters such as hematological, pulmonary, and cognitive function, are required to determine safety. Further, more objective measures of level of function and quality of life are required to determine more clearly whether level of function and quality of life improve with the use of medicinal marihuana.

Reports regarding the use of marihuana as an analgesic date back centuries.[6,7] More recently, the potent antinociceptive and antihyperalgesic effects of cannabinoid agonists in animal models of acute and chronic pain; the presence of cannabinoid receptors in pain-processing areas of the brain, spinal cord, and periphery; and evidence supporting endogenous modulation of pain systems by cannabinoids suggest that cannabinoids exhibit potential as analgesics.[8,9] In addition, there is human work to support that oral synthetic cannabinoids and extracts exhibit moderate analgesic effects in humans.[10–14]

In 2005, there were changes to the MMAR program such that physicians are no longer required to endorse statements indicating that the benefits of the marihuana outweigh the risks. This burden of risk is left with the patient, who must endorse a statement indicating that "*the benefits and risks associated with the use of marihuana are not fully understood and the use of marihuana may involve risks that have not been identified, and I accept those risks.*" (Application for Authorization to Possess Dried Marihuana-Form A, section A6). There are now two rather than three categories relating to diagnosis, and family practitioners are now permitted to complete the physician forms required for the full application in cases where the applicant's case has been assessed by a specialist. The medical practitioner's declaration appears in the Appendix.

This report supports positive effects from medical marihuana in 30 cases followed at a tertiary care pain management center who have used medicinal marihuana for 1–5 years under the MMAR program. Further study is necessary with regard to randomized, placebo controlled trials and systematic reports on patients using marihuana for therapeutic purposes under the MMAR.

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Appendix

MMAR Physician Form Section: B2-5 Medical Practitioner's Declaration and Signature

Please read, sign and date the document in the space provided on Page 3.

1. a. the applicant's symptom(s) listed in Page 1 of this form falls under Category 2 (symptoms that do not fall under Category 1);

   b. conventional treatment(s) for the Category 2 symptom(s) have been tried or considered, and have been found to be ineffective or medically inappropriate for the treatment of the applicant.

2. I am aware that a Notice of Compliance has not been issued under the Food and Drug Regulations concerning the safety and effectiveness of marihuana as a drug.

3. a. If you are a medical specialist that your area of medical specialization is relevant to the treatment of the applicant's medical condition; or

   b. If you are not a medical specialist, please declare:

      i. that the applicant's case has been assessed by a specialist;

      ii. the specialist's area of specialization is relevant to the treatment of the applicant's medical condition;

      iii. that the specialist concurs that conventional treatments for the symptom are ineffective or medically inappropriate for the treatment of the applicant; and

      iv. the specialist is aware that marihuana is being considered as an alternative treatment for the applicant.

Note: Category 1 includes patients with multiple sclerosis, spinal cord injury or disease, cancer, HIV infection, severe arthritis or epilepsy.

Category 2 refers to patients with symptoms that do not fall under Category 1.

From: http://www.hc-sc.gc.ca/dhp-mps/marihuana/index_e.html