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Original article

Treating depression with cannabinoids

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Abstract

Although a variety of drugs are available for the treatment of depression, therapy is not effective in all cases and finding alternative options is desirable. Results from animal studies, anecdotal experience reported by patients using cannabis and observations from clinical studies where cannabinoids were used in serious diseases suggest an anti-depressive potential of cannabinoid receptor agonists. From 2003 to 2006, 75 patients suffering from depression, stress and burnout syndrome were successfully treated in a practice for general medicine with the cannabis ingredient dronabinol, alone or in combination with other antidepressants. Two case studies will be presented. The presented observations suggest that dronabinol has an antidepressive potential that can readily be used in medical practice.
Key words: Depression, burnout, cannabinoid, cannabis, dronabinol

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Introduction

In several prospective studies, consumption of cannabis was associated with an increased risk of developing depression and anxiety, particularly when cannabis had been used during adolescence [1,2]. There appears to be less evidence for a correlation between depression and cannabis use during adulthood [3,4]. On the other hand, patients have, in numerous surveys and interviews, reported anti-depressant and anxiolytic effects of cannabis [5-11]. Patients suffering from a range of chronic illnesses have reported that they use cannabis not only to mitigate physical symptoms, such as pain, nausea and lack of appetite, but also to improve general well-being and to mitigate anxiety and depression [8-10,12].

In several clinical studies, during which subjective parameters were monitored, cannabinoids not only improved physical symptoms but also improved well-being and produced measurable antidepressant effects [13-15]. A study by Musty (2002) with healthy volunteers, smoking cannabis showed a positive correlation with the ratings on a scale of depression (MMPI), indicating an antidepressant effect [16]. These indications of a therapeutic potential of symptoms of depression encouraged the author to start administering dronabinol to select patients suffering from depression.

Experiences in Medical Practice

The author operates a practice for general medicine in downtown Vienna, where a large population of younger people lives and works. In the late 1990s I began administering dronabinol to individual younger patients, who were dissatisfied with available antidepressants because of side effects or lack of effectiveness. In Austria, the active ingredient of cannabis has been available for medical therapy since 1998. The majority of these early patients, who suffered from a reactive depression or burnout syndrome, was well aware of the therapeutic potential of cannabis and considered a trial with dronabinol reasonable.

Between 2003 and 2006 some 250 patients who suffered from a wide range of illnesses were treated in my practice with dronabinol. Some 75, or 30%, of them suffered from depression, a sense of being overwhelmed or from burnout syndrome. The initial dose of 2.5 mg dronabinol in capsules was raised, over a period of several days, to generally 5 or 7.5 mg per day. For almost 80% of the patients, use of the medication cor-

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related with swift improvement of the depressed mood or the sense of being overwhelmed. Only 20% of patients did not experience any significant mood brightening. To that group a combination therapy of dronabinol and a selective serotonin reabsorption inhibitor (SSRI), such as fluoxetine hydrocholoride at a dose of 20 mg per day or a serotonin noradrenalin reabsorption inhibitor (SNRI), such as milnacipran at 50 mg per day, was administered. That therapy generally resulted in rapid and satisfactory improvement of depression and the lack of drive.
Side effects were generally low. Effective daily doses of dronabinol ranged generally from 7.5 to 12.5 mg per day. Only few patients required a higher dosage, generally those also suffering from a sleeping disorder.

Case Reports

In the following two exemplary cases from a large number of successful treatments are presented.

Case 1

Ms. H. came to my practice six years ago, at the age of 48. She had a long psychiatric record with episodes of depression and the abuse of alcohol and drugs, particularly of benzodiazepines. A former teacher, she is now retired but continues to work as an actress.
At the onset of the therapy the patient was in a difficult situation. Her father had recently passed away; she was highly depressed, sometimes even suicidal. Heavy abuse of drugs, such as oxazepam, and of alcohol further complicated her situation. Following an extensive discussion a treatment with oral dronabinol of 5 – 7.5 mg per day was started.
After 6 years of using dronabinol Ms. H. is now very experienced with the use of the drug. Depending on her symptoms, she takes between 2 and 4 capsules of 2.5 mg per day. She is no longer addicted to benzodiazepines and does currently not drink alcohol. As supplementary therapy she takes 2.5 mg per day of olanzapin (an atypical neuroleptic), 25 mg of venlafaxin (an SNRI) and, if needed, trazodon, SSRI. She reports that the dronabinol therapy has improved her quality of life significantly. She feels more stable than before and the chronically reoccurring episodes of depression are less severe. Her speed of reaction when operating a vehicle is impaired. Before extended car trips she has thus periodically suspended dronabinol for typically one week, which has resulted in psychological withdrawal symptoms.

Case 2

Ms. F. first visited our practice at the age of 22 where she received treatment over a 12-month period. At that time, the patient suffered from stress related headaches, migraine, asthma, neurodermatitis and an instable emotional personal disorder. Most prominent was an acute depressive syndrome, for which Ms. F. had already received treatment in the psychiatric clinic at Vienna General Hospital.
After repeatedly dropping out of school and frequent job changes the patient tried, despite a lack of family contacts, to improve her dismal social and physical conditions. She was also rather unhappy with her having to consume up to ten prescription medications. In addition to anti-depressants, such as fluoxetine and mianserin, neuroleptics, such as prothipendyl, sedatives and anti-allergic agents, such as hydroxyzine, NSAR, such as diclofenac, proton pump inhibitors, such as rabeprazole, analgesics, such as propyphenazone and tramadol, she daily consumed anti-asthmatics, such as terbutaline sulfate as prescribed by several other physicians.
Because the patient did not want to continue this multidrug treatment she came to our practice in search for a more simple and natural treatment, involving no more than two drugs. Primary objective of the treatment was to improve her acutely depressive condition, which had not improved despite the use of multiple drugs. Following an extensive consultation the patient opted for a monotherapy with dronabinol. After several days the initial dose of 2.5 mg was raised to 7.5 mg daily. After several days of treatment we observed a significant improvement of her depressive condition and of the concurrently occurring illnesses.
During the first month of therapy the daily dronabinol dose was raised to 10 mg and 12 month after starting her therapy the physical and psycho-social condition of the patient had stabilized at that dose. Subsequently, the patient resumed relationships with her family, relocated to a different state and left our practice.

Conclusions

In summary, the experience presented here suggests that general practitioners are able to treat a large number of patients suffering from depression and burnout syndrome without significant complications. Most patients were not reimbursed for dronabinol by their health insurance, unlike for patients with physical illnesses, such as cancer or multiple sclerosis, where the local health insurance in Vienna pays for nearly 60% of the cost of dronabinol.
These findings agree with the results from patient interviews, observations from clinical studies on the impact of cannabinoid use on mood and the results from animal experiments. In the latter, exogenous cannabinoid receptor agonists [17,18] as well as the inhibition of the deactivation of the endocannabinoid anandamide [18,19] resulted in antidepressant effects. To date no clinical studies have studied primarily the effectiveness of cannabinoids for the treatment of depression. In my opinion, such studies are desirable and promising.

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