Living with Dronabinol - A Case Study
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Argument for Considering use of Dronabinol (synthetic THC) in Elderly Patients

Abstract

There is no significant evidence of memory loss,and at age seventy-three, subject is still actively engaged in cognative processes that involve past experience, and future imaging, as well as a full range of motor functions.What protected the subject's brain after a number of significant insults to the brain? There is a significant history of brain injury. The subject subsequentially has recovered from all injury and maintains a high level of brain function.

The most significant change has been neurological. The subject has found drug promoted increased cognition, suggesting Dronabinol works on axioms of the brain, while the drug dampenes sensation, especially of pain and nausea, however all senses are affected, suggesting possible supression of hormone to stimulate sensation, possibly at dendrite level.

Age 73:

At seventy-three is able to maintain all activities of daily living, with the help of spouse of thirty five years, despite significant brain insults during lifetime. Continues to go to the gym, maintain a blog, and communicates with friends and family on Facebook social media platform.

In past year has completed eighty contact hours learning 'Computer Code' on 'Youtube'. Has 731 'LinkedIn' connections, and has just completed a 458 page novel in ten weeks, all requiring increased congitive attention.

History of causative injury to brain tissue:

1. Age 29:

   Prednisone administraton for three years duration, following diagnosis of Crohn's Disease.

2. Age 60:

   Post Concussion Syndrome for four years duration, following blunt trauma to the superior, central, frontal region of the skull, covering the central part of the frontal lobe, and possible trauma to the temporal lobes of the brain.

3. Age 63:

   Left sided stroke

4. Age 67:

   Thirty-one treatments of chemotherapy, and fifty-seven of radiation,.

Recovery From Brain Insults in Chronological Order

1. Prednisone adminstration:

Prescribed at age 30:

Did not contribute to perceptable brain tissue dysfunction function. Creative brain function remained high. Some evidence of increase in mood elevation. Weight loss remained a symptom, while appetite was normal.

2. Post Concussion Syndrome:

   Age 60:

   Primarily resulted in severe amnesia for three weeks. Unable to relay time and date. Rapid improvement after three weeks.

   Neuropsychiatric evaluation, six months later, showed normal brain funtion, with no cognitive or memory deficits. Near normal brain function returned after four years. Exceptions being spelling the words 'and' and 'the', where condition contiues to persist.

3. Left-sided stroke:

   Age 65:

   During the event subject totally conscious of all activity taking place, from time of “unconsciouness”. Able to identify all personnel at site of the fall, by their voice. Aware of ambulance trip and being asked questions. Unable to answer because something had happened to the midbrain and the messages conveyed through sound and smell, could not be processed and vocalized by subject.

Symptoms of the stroke included:

Extreme dizzyness.

Nausea

Tingling down left side of face and left side of tongue

Unable to viually focus. Shapes turned into a swirlng, colorful vortex, increasing sense of extreme nausea and dizziness.

The above symptoms preceded a brief ' out of body' experience where brain was able see images of peaceful scene imagery from liftime experience. Subject could recognize place.

This phase lasted for very short time, one to two minutes in real time.

Then subject became conscious of selective touch. Responsive to pressure of grip of spouse's hand .

Return of senses accompanied with a high degree of vertigo, nusea and dizziness lasting for undefined time. Vision first to return, speech last.

Able to hear. Brain unable to process how to answer.

Speech returned within three hours. Slow and hesitating at first, back to normal within two weeks.

Subject appeared unconscious, however could hear everything being said and activities going on in vicinity. Inability to verbalize situation created high stress level because subject had no control over the situation,

“Code Stroke” pronounced shortly after arrival in Emergency Department.

Subject able to process steps being described by 'stroke doctor' and able to follow along with each order and comprehend sequence of events in resusscitation.

Two hours later:

Right sided weakness that improved rapidly, but residual weakness persists 10 years later.

Neuropsychiatric evaluation revealed the critical thinking score had dropped to half of what it tested six months following Concussion.

Stroke Outcome

The lower critical thinking score resulted in lack of filter of information, the outcome being behavioral, and cognative changes resulting in premature retirement. Loss of most of the analytical skills required for role of Clinical Quality Specialist focusing on Risk Analysis

Drug History:

Ilicit drugs:

None used during lifetime

Psychotropic Drugs:

Age 20:

1, Chlorpromazine:

Prescribed for three months to treat severe depression following breakup of first serious relationship, which coincided with working full time, and studying for three significant exams, all occuring during a two week period.

Age 22:

2. Fluphenazine:

Prescribed for three months. To treat acute mania following death of father, remarriage of mother, move from one city to another, and studying a specialty of profession over a three month period.

Age 22:

3. Ritalin:

Prescribed for three weeks, to replace Fluphenazine. Subject could not tolerate drug.

Age 56:

4. Benzodiazepime:

Prescribed for fifteen years as adjunct drug to Magnesium Choride to treat muscular spasms caused by Giteman's Sydndrome

Age 69:

5. Depakote:

Prescribed for two weeks at for acute manic episode, following year long treatment of chemtherapy and radiation for metastatic breast cancer and loss of four first connection family members in Australia. Had not seen them in 18 years.

Age 71:

6. Dronabinol:

Prescribed to treat symptoms of 'failure to thrive' following cancer treatment.

Suppliments used during lifetime

Age 25:

1. Folic Acid:

Commenced Folic Acid: Dose of 1600micrograms daily. Continue dosage to present day.

Age 57:

2. Magnesium Chloride:

Commenced dose of 384 milligrams, prescribed by nephrologist to treat Gitelman's Syndrome when serum magnesium levels were at 1.3 mE. Over 2 year period dose increased to 640 milligrams. Remained at same dose until one yer ago. Potassium level became critically high (5.4). Cardioligist adjusted dose back to 384 milligrams. Muscular spasms returned as a result of reduction of Magnesium, and Benzodiazepime from 100 milligram /day to 7.5 milligrams/day

Treatment

Age 63:

Stroke

Following the stroke in 2008, the subject had continual nausea with vertigo. These sypmtoms treated intially with Zofram and Stemetil, however the symptoms never completely abated.

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Breast Cancer

Bilateral mastectomies were performed with no adjunct chemotherapy treatment for stage 2 breast cancer.

Age 67:

Metastatic Breast Cancer

In 2012 it was established that breast cancer had spread throughout the manubrium. Beyond that, a large 8 centimeter, by 14 centimeter pedunculated tumour had formed on the inner posterior chest wall. By the time of secondary diagnosis, the subject was suffering severe symptoms of dyspnoea, rales, and heart failure symptoms. One year of chemotherapy and radiation followed, effectivly erradicating the cancer.

In June of 2012, subject began a five year course of Aramidex. This drug further contributed to nausea, and generalized wekness throughout the body. The subject continued taking Zofram, with limited succes .

Age 71:

Failure to thrive

Symptoms of severe nausea, anorexia, dysphasia, and esophageal stricture.

Rapid weight loss

Despair

Dronabinol (synthetic tetrahydrocannabiol)

Prescribed in December of 2016, by an Oncologist with homeopathic background.

Outcome

Folllowing an initial dose of 2.5 milligrams of Dronabinol, eight hourly, subject still had symptoms of severe nausea. The dose was adjusted until the ideal dose of .four capsules of 2.5 milligrams (10 milligrams) two (5.0 milligrams) at 6 am and 5.0 milligrams at 4 pm, was established.

Dronabinol 10 mgs

Relief of symptoms of nausea and anorexia

From administration of chemotherapy (Taxol), and radiation in 2012, subject had constant metalic taste of metal that dampened appetite. Added to that was a hypersensitivity to smell of food, also producing

a nauseating effect. With time, these sensations increased, making it increasingly difficult for the patient to ever feel hungry. Weight loss was gradual until 2016.

Following a sneeze that resulted in damage to all structures of the lubar spine, nausea and anoxia was exacerbated by the severity of the pain. Comobidities prevented a surgical option. Finally the degree of pain, and severity of nausea and anorexia lead to an inabilty to tolerate food.

Effect of Dronabinol 10 mgs on Nausea and Anorexia

With a continuing diagnosis of 'Failure to Thrive', there was limited success of dividing the daily dose of Dronabinol 7.5 mgs.

Age 73:

Iit was mutually decided to experiment with the dose by increasing it to 10 mgs . This was found the be the optimal dose for anorexia, and nausea taken as 5 mgs at 6 am, and 5 mgs at 4 pm.

The optimum adminsitration of Dronabinol proved effective within one hour of administration, lasting for almost 24 hours. Taken at six and four, the dose provides relief until between 4 am and 5 am the following morning.

Following the first dose of the day, there is a gradual increase inappetite, and an enjoyment of being able to cook, and prepare meals again and a genral sense of well-being, with the absence of pain and nausea..

Physiological changes noted following each dose of Dronabinol 5 mgs.

For 4 hours following dose

1. Forty to sixty minutes following the dose, first physiological changes takes place.
2. Initially the parasympathetic nervious system is stimulated in the following regions.
3. Skin: Tingling starts with the face and lips, and spread over throughout the body, within 10 minutes.
4. Right side of tongue: affected similarly.
5. The tingling extends down through the pharynx and creates a warm sensation inside the chest region.
6. There is a slight increase in pulse <70 -88 bpm>
7. Repirations become slower, but subject sighs frequently over the next hour.
8. There is a loss of depth perception which is challending when walking around so the drug at this time creates a falls risk for 4 hours following dose.
9. Auditory changes include, ringing in the ears lasting an hour, selective hearing. Can hear birds and clocks, but not aware fire alarm is going off for 4 hours following dose.
10. Olfactory chages. Profound. The sense of smell is almost completely dampened. This poses a risk for fire. If this sense is not present, Dronabinol user can not smell anything buring therby

creating a fire hazzard. Effects last around 4 hours following dose.

11. Inability to function on daily living, like being safe to cook breakfast, makes this drug dangerous, unless precribed, knowing the patient will be under constant supervision of a responsile, qualified caregiver for 4 hours following dose.

Next 4 hours

12. Over the next 30 minutes the firt stage of abosportion wears off, and now totally pain and nausea free, the patient can move around unimpaired. Safe to walk and peform any tasks, including cooking, as senses have fully returned.
13. For four hours after dose of 5 mgs at 6 am, the patient should remain seated and occupied. There is no need for restrains. The patient should be compliant, as in this stage of absorption, the patient is nausea free and pain free.
14. Psychotrpoic effects of Dronabinol.

Patients Benefits from Dronabinol

- Profound relief from Nausea, anorexia, suicudal and pain <10+ on pain scale.
- Sense of freedom being able to move totally pain free.
- Delight in colors, smells, and textures of food.
- Enjoyment of food preaparation.
- Enjoyment in meal spend with spouse, enjoying each other's company.
- Mild euphoria, that can be increased by what captures the attention.
- Brain changes completely from first hour onset of effects of Dronabinol.
- Can maintain independence and have normal existence for sixteen hours a day.

Impairment Issues using Dronabinol

- Motor coridination is normal, but replexes a slowed significantly. The inability of the brain to shift focus rapidly, compbined with dampened reflexes, makes driving impossible.

  Inability to focus on the daily routine leads to absentmindedness when taking medications. Strict upervision is required at all times with medications to prevent missed doses, or double dosing.This decreases after the initial four hoursafter the dose.

- Following the relief of symptoms, there is a feeling of well-being.This leads to a concentration of attention on what feeds the well-being. Presently it is the process of writing. Cognition is increased, resulting in thinking about a project or an idea, rather

concentrating on rote activites.

Outside the person appears to act absent minded. Inside, the brain is increasing creative and productive.

- Subject is capable of much higher thinking capabilities than prior to taking Dronabinol.
  - At Age 71:

    After commencing Dronabinol, learned Computer Code through 'Youtube' doing 80 contact hours over a six week period.
  - At Age 71:

    Became involved with social media platforms, 'Facebook', Twitter'. 'LinkedIn' .
  - Developed a Blog: thcsolutions.wordpress.com
  - At Age 73:
  - Wrote a novel, 468 pages in 10 weeks.
  - Produced this article in two days in colaboration with husband/caregiver.

In considering the use of analgesic, and anti-emetics in elderly patients, it is common practice to turn to the current drug of choice.This usually is based on patient pressure, and commerialization of the drug.

There has been insufficent research dollars spent on exploring the possibilities of Dronabinol as an alternative for both symptoms. As a result, any information regarding the pharmokenetics of Dronabinol is limited to a few thousand references.

Considering that this drug has been availble as a Schedule 2 drug since the 1980's, it would appear that it's scope of use has been limited to a very small demographic, primarily AIDS and cancer victims, limiting patient access.

While thinking about it use as an alternative to opiates for pain, it is worthwhile to consider its possible use to treat other conditions. There is interest in it use in Alzheimer's Disease (AD) [1], and as a natural protector [2]

Financial Implications for Use of Dronabinol

1. Cost of Drug

   Curremtly as a prescription costs for Drug without prescription insurance $300-400/month.

   Cost of drug with prescription insurance and 'Prior A uthorizaton' $30/month.

2. Cost of Care

   2014 before commencement of Dronabinol $60,000 (Approx)

   2015 before commencement of Dronabinol $35,000 (Approx)

   2016 before commencement of Dronabinol $27,800 (Approx)

   2017 Using Dronabinol $2,700 (Approx)

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Using Dronabinol to control debilitating symtoms leading to starvation and immobility, has markedly improved health, quality of life, and outlook for subject.

The authors empasise that this drug needs o be used in patients with proven, reliable, support systems that provide the 8 hour minimum direct care cover, to ensure patient safety during the first four hours following dose.

General health improvements in subject have been the result of increased appetite, leading to a plant based diet of 99% leading to increased activity that has increased to gym and swim three times a week.

Quality of life at 73 has gone from despair resulting from starvation and suicidal pain, to 16 hours a day of independence, social involvement, great improvement of personal grooming, activities and hobbies that are enjoyable and make life worthwhile Subject feels alive and productive.

Marital relationship so much less stressed and there is a rekindling of warmth and companionship of the marriage.

Conclusions

Given there is such a limited number of people taking this drug it is difficult to do any research. This information is based on a daily diary of events and effects observed by the subject as the use of Dronabinol over a two year period.

1. It is important to understand that the subject had never tried marijuanna and therfore does not know what smoking a joint feels like, compared to taking Dronabinol.
2. From the author's understanding of physiology of the brain, it would appear that Dronabinol affects the midbrain region, and disrupts the messaging system of the central nervous system.
3. It appears, from the effects at various stages of absorption, that the axioms are stimulated causing deep cognition.
4. From the sensory changes that take place, it appears that the dendrites are desesitized.
5. In either instance there is a fairly complete metabolic clearance within 22 hours, as by the time the 6 am dose is due, pain, nausea, and anoriexia are at levels barely tolerable.
6. Over a three year period there has been no perceptible neurological change. No change to vision, touch, smell, taste, or hearing.
7. For 8 of the 24 hours the sensory nerves are impaired but recover prior to the next dose.
8. Since the stroke in 2008, subject's behavior has been less filtered, but not to the point of antiscoial behavior.
9. When the options run out on what is left with a person with so many comodities, it should be a joint venture between the patient and the doctor, as to whether to use Dronabinol.
10. The subject realizes that the alternative would have meant death at least two years ago. Now the future is only limited by imaging what possibilities lay ahead.
11. Freedom from pain, nausea, anorexia, and depression, outweigh the physical limitations of not being able to drive, or walk around during peaking of dose. It is a life choice balance.
12. One day this information may assist researchers to find combinations of this drug that will fine

tune the overall impairments, and just impair the sensory nerves that control the pain reflex, and nausea and anorexia.

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