The CCIC Podcast

May 28th, 2015

This month: Dr Donald Abrams
Interview by Dr. Mark A. Ware

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Introduction

Hello and welcome to the CCIC Podcast. The CCIC Podcast is a series of in depth interviews with leading experts and opinion leaders in the world of medical cannabis and cannabinoids.

The CCIC Podcast is brought to you by CannTrust™, a Canadian licensed medical cannabis producer.

In this edition of the podcast we are delighted to welcome Dr Donald Abrams from the University of California at San Francisco, talking about his motivation to keep going with medical cannabis research:

"I don't like injustice, and I like to see wrong righted, and so that was part of the inspiration to keep me going"

and future directions for medical cannabis research:

"I am interested in using social media technologies to develop observational data bases where patients report their own outcomes, and someone on the other end is tracking what blend or what strain is good for this and that, and do these patients have positive outcomes."

Dr. Donald Abrams is chief of the Hematology-Oncology Division at San Francisco General Hospital and a Professor of Clinical Medicine at the University of California San Francisco. He has an Integrative Oncology consultation practice at the UCSF Osher Center for Integrative Medicine.

We spoke on May 25th, 2015

Dr. Ware You have been actively involved in clinical cannabis research since the late 1980s. Was there a particular patient or experience that first got you started on this journey?

Dr Abrams Good question. I actually had a partner in 1986 with aids who died in 1989. In those days, that was a long survival. He refused to take his antiversterall

therapies (somewhat at my recommendation), but he used cannabis on a daily basis. *Mary Rathpen* was the volunteer of the year at San Francisco general hospital for three years running in our AIDS program. She would wheel our patients to their X-rays and drop their prescriptions off in the pharmacy, and she would also bake brownies for what she called her kids, our patients. In 1992, I was in Amsterdam (of all places) at the International AIDS conference. We glanced at CNN Global, and saw Mary Rathpen being arrested in Sonoma for baking brownies for our patients. When I got back to San Francisco, there was a letter addressed to the director of research in the AIDS program (which I was not, but it was sent to my desk), suggested that we do a clinical trial demonstrating the medical benefits of cannabis should come from "Brownie Mary's" Institution, as if she were our dean. And so I picked up the gauntlet, you know I went to college in the 60's, and then I remembered Mark my partner, who did not take antiretrovirals, but who survived longer than people did at that time because we only had one drug, and so I said okay I can do this. The letter came from *Rick Doblin,* who was president of "MAPS" Multidisciplinary Association of Psychedelic Studies, and he's the one that really got me involved with this from day one, because I sent him the template for how to write a protocol for the constitutional review board at the University of California San Francisco, and a week later he returned a study looking at cannabis brownies versus dronabinol which had just been approved in our country for the aids wasting syndrome and so he suggested that be the study that we would do. And I said no I don't think we can do brownies over a twelve week study because they're going to go bad and you need a stable batch, so that lead to the beginning of our clinical work in cannabis at the San Francisco general, so it was my partner Mark, Rick Doblin and "Brownie Mary" that really pushed me down this road

You have experienced and published your experiences with the barriers to clinical cannabis research. What has kept you going in spite of these challenges?

2. I think it was because of those barriers. I am the type that likes to be stimulated, like to be challenged, and likes to overcome those challenges. So in my career I have always been sort of on the edge, and I like to push the envelope. So at the beginning of my career I was an AIDS doctor, nobody knew what it was and everyone was afraid of it you know, "Stay away from this" or, "Don't touch those patients!" and I said come on, we have to take care of these people! And then cannabis presented many obstacles, it took me five years to get the funding from he National Institution of Health to conduct my first research project, and during those five years, as you've mentioned I published tribulations and trials, trying to examine medical cannabis, and I really think that is what inspired me, like no you cant do that. I mean yes I don't like injustice, and I like to see wrong righted, and so that was part of the inspiration to keep me going, and then cannabis changed my life because in trying to get my studies funded I really developed an appreciation for the power of plants as medicine which ultimately took me to the Telluride Mushroom festival, in Telluride Colorado where I met Andrew Wild about the fellowship in integrative medicine that you can do as a two year online training program at the University of Arizona. I did that, and when I finished I said "I'm done with HIV/AIDS" and have

actually been one of the people at the forefront of developing the whole field of integrative oncology. So from HIV AIDS to medical cannabis, to integrative oncology all have been challenges. I always tell my junior colleagues "you have to reinvent yourself in your career to be satisfied in a career in medicine. I think if I did the same thing everyday year-in and year-out, I probably would have gotten a little bored.

There have been some major cannabis policy changes in California during your career. How do you see these changes affecting medical cannabis research?

3. So I guess the first change was in 1996, when the state of California voted in favor of proposition 215, which allowed physicians to discuss cannabis use with their patients, and it's interesting that 1996 is when I was finally funded by the National Institutes of Health to do the first clinical trial that we did looking at the potential interaction between cannabis and protease inhibitors, the first really potent AIDS drugs. And then because that act was passed in 1996, one of our state senators in California senator *John Vasken Cellas* appropriated three million dollars a year for three years to establish a center for medicinal cannabis research at the University of California to determine whether or not any of the indications we had approved cannabis for medicine as it had *deformable accrete*, so he set aside money that would allow us to do research on the clinical effectiveness of cannabis. In the US the only legal source of cannabis is NIDA (National Institute on Drug Abuse) and they have a mandate from congress to only substances of abuse as substances of abuse, so my initial two attempts to get cannabis from NIDA to study it, to see if it was effective in the treatment of the AIDS wasting syndrome could never be funded, nor could I get the cannabis, so the first study was to show whether or not it was safe to add cannabis to the protease inhibitors. As long as we were looking for potential harm, then that was something they could fund. The Center for medicinal cannabis research when it was established in 1999 at the university of California opened a new door, because now we could easily get funds to study the effectiveness of inhaled cannabis. And the center established an infrastructure in their office so that many of the regulatory approval that we needed to get on our own for our first study, could really be managed much more efficiently since doors were opened by the Center for Medical Cannabis Research. So NIDA was happy to provide us with their cannabis, as long as they weren't giving us the funds to study the effectiveness. So with their funding I actually got four clinical trials funded, two of which never happened because they were in cancer patients, and I've always had difficulty enrolling cancer patients for some reason to cannabis trials, so they were both de-funded. One was to look at cannabinoids and opioids in cancer pain secondary to bone metastasis, and the other was to look at inhaled cannabis versus dronabinol versus placebos in patients with delayed nausea and vomiting. That study was launched right when aprepitant became available on the market as a drug for delayed nausea and vomiting. The Center for Medical Cannabis research has funded three or four other neuropathy studies, so I think that the body of knowledge around neuropathy seems to be the strongest suggesting cannabis has utility, so we were happy to complete the first study in neuropathy. The second study we did

funded by the Center for Medicinal cannabis Research actually looked at the volcano vaporizer as a smokeless delivery system, because we knew our colleagues in conventional medicine would never accept smoking a cigarette as a reliable for of medicine. We then compared the Volcano to the inhalation of NIDA cigarettes in healthy 25-40 year old cannabis users, which was by far the easiest clinical trial I've ever done because we put them in the research center for six days, on each day they either vaporized or smoke different strains of NIDA cigarettes, plus they got six hundred dollars, so we had to beat people away with a stick who wanted to be in that study. So I think the change in the Californian law almost twenty years ago, and the brief appearance of the Center of Medicinal Cannabis Research funds, were major policy changes. The next one in sight is the legalization of cannabis in California, which I have some concerns of what that might mean for medicinal cannabis. Over the past twenty years we have developed quite the system of dispensaries, and quality control if you will, or knowledge of what's being made available to our patients, and I'm just unsure what outright legalization will do, so we are just going to have to wait on that one.

How do you see medical cannabis evolving in the next 10 years?

4. Right now in the United States, seventy-five percent of our population lives in States where they have access to cannabis for medicinal purposes. So what I think we need in the next ten years is some data. I see patients every day in my integrative oncology practice coming to ask me what dose of CDB oil they should take for they're breast cancer. There is no answer to that question. The fact that it might be useful comes from a study in the test tube, where triple negative breast cancer cells create a gene product(protein). And when *Shawn McAllister* and his colleagues published that study here at California Pacific Medical Center, our local newspaper printed the headline "Marijuana Cures Aggressive Breast Cancer". And they called me for a comment and I said I thought they had jumped way too many steps from the data that's available. This is cells in a test tube expressing a protein, this is not what happens to humans. I said I was an AIDS doctor for 25 years, and I knew gasoline and soap studs killed the AIDS virus, but I never would have recommended either as potential therapy. So this is what happens, especially with the oils, which we know nothing about. That is something I would like to study. I am in touch with *El Sulle,* who grows cannabis for the government, and he's made an oil because he knows I want to study it. The problem is that the FDA will say that the oil is an NME (Novel Molecular entity) that what they told me for my current patients with sickle cell disease, where we are looking at a cannabis strain grown by El Sulle, which is five percent THC, and five percent CDB. And that was the first study in the US where we used a CBD rich cannabis preparation, and the FDA told me I could not proceed until I presented them with two animal, pulmonary histopathology data showing what happens to the lungs of a monkey and a mouse inhaling CBD, because they say CBD was an NME that had not been previously studied. So I hope in the next ten years, we can get some data. If we cant do it in randomized *placibeau* controlled studies using NIDA cannabis, I am interested in using social media technologies to develop observational data bases where patients report their own outcomes, and

someone on the other end is tracking what blend or what strain is good for this and that, and do these patients have positive outcomes. We need to get this data somehow, this is very important for the next decade.

1. Is there one study that you want to see done that has not yet been addressed?

5. Well we know that cannabis I useful in all these types of neuropathy, and as an oncologist I am able to cure patients with many cancers who are disabled by their peripheral neuropathy from their chemo-therapy. Our colleagues with *Mal Shmodel* tell me that cannabinoids are not only effective in treating the peripheral neuropathies induced by chemo-therapy but in preventing them. So I would love to do a study, first in showing it works in patients who have chemo-therapy induced neuropathy, and if it does, seeing if we can prevent it because that would be a huge benefit for cancer patients receiving chemo-therapy known to have that, and all three classes of our chemo-therapy drugs that are known to be associated with peripheral neuropathy, models show that cannabinoids can prevent that neuropathy. So that needs to be done, but it would have to be a very large study. The other study that I sort of eluded to was a study of oil in patients with brain tumors, because it seems to me if cannabis is going to have any utility, it is going to be in the brain, which the CB1 receptor is the most densely populated receptor in the human brain, so using highly concentrated cannabinoids in a brain tumor as Manual Gusen has shown us in the test tube, makes some sense. Now, he tried a study where he dripped THC into the tumors *viecathador* and told him that we don't treat cannabis locally or topically, we treat it systemically and so inhaling cannabis I don't think is going to achieve the concentration in the blood stream of the active components that you might get using an oil. I have a collaborator at the University of California in neurology who is also quite interested in this, so I think the way to couch this one first as a safety study to see if there is any potential pharmical kinetic interaction between the cannabis oils and *Temezolimide* which is the chemo most frequently used in patients with gleoblastoma, and that can be a short study, and we could get a glimpse to see if there are any potential benefits. I am at the stage of my career where I wonder how many more studies I want to or can do, but those are two studies that I would like to perhaps collaborate with junior investigators, and try to push that envelope forward. What I am concerned about is this CDB only movement that we are seeing, and God bless Sanje Gupta, I think he has done an amazing amount, and you know that I did nominate him to get the International Association of Cannabinoid Medicine award for pushing clinical cannabis back into the public eye, because the shows he has done here in the US have really mainstreamed cannabis as medicine, but particularly for children with undetractable seizures, as well as focusing on CDB only. We now have States in the US that have approved CDB and not inhalable cannabis medicines, which I think Is short sided. I just hope people remember that THC is really the most active component in the plant. CBD has some medicinal properties, but I don't think we should throw the baby out with the bath water.

1. Any other thoughts on the world of medical cannabis that you wish to express?

6. Yes, and this is where the CCIC really comes in, because I have been saying for years that cannabis has been a medicine a lot longer than it hasn't been. Its been a medicine for three thousand years, and in our country it was removed from the US national formulary in 1942, so that's seventy-three years ago now, and most healthcare professionals have been trained in those last seventy-three years when cannabis has not been available, in fact it has been prohibited and demonized. We are not going to be able to benefit patients, until healthcare providers learn that cannabis is medicine, and learn what it can do, and the only way we can do that is through effective continuing medical education, and educating the physicians, the people who need to be aware the potential health benefits for recommending cannabis to patients. Otherwise nobody is going to learn about it, and when people don't learn, there is no way that they can benefit. I just recently read a tendy's remarks from a conference I did in northern California, and they asked me how I was going to change my practice, and I said I am going to accept that cannabis is useful for pain, and I am going to recommend them to my patients. I did an American Association for Pain Management meeting in Phoenix three years ago, where they had audience response pads for people in the audience for a breakout session I did for pain and palliative care, and I asked the attendees, "I recommend cannabis to patients with chronic pain: Always; often; sometimes; rarely; never." And they responded, there were seventy-seven people in the audience. 6% said Always; 7% often; and the rest said never or rarely. That just doesn't make sense to me, that's why we have our own cannabinoid system to help us in the modulation of pain, and not to take advantage of what nature has given us in the flower of that plant doesn't make sense to me. Until we re-educate physicians practicing medicine in the 21st century that cannabis is a medicine, which will be difficult because this is a century of targeted therapy, gene technology and Nano-therapies, a plant? Give me a break. That's why we need efforts like CCIC and other CME programs that are carefully put together and with expert faculty to re-educate physicians that cannabis is a medicine, and that will help hundreds of thousands of people around the world.

That was Dr Donald Abrams, speaking to us via Skype from San Francisco, California.

Thank you for joining us.

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