



CBD, Cannabis, and Lung Cancer: What Does the Latest Research Say?

- Diane Mulligan: CBD, Cannabis and lung cancer. You see the headlines, now we'll talk to an expert about the latest research. I'm Diane Mulligan.
- Jordan Sherman: And I'm Jordan Sherman. There is still so much to learn about how CBD and Cannabis may help lung cancer patients. And our next guest has some interesting insights into this. Our first of two podcasts on CBD and lung cancer.
- Dr. Bainbridge: So when we look at patients specifically for lung cancer, the first thing that I think of is alleviating symptomatology because we don't think that Cannabis cures particular conditions. It alleviates symptomatology and that's the best we know now with the research that we have.
- Diane Mulligan: Lung cancer is a tough topic. It's a disease that affects patients, families, friends, coworkers. But first, it's a disease that affects people. The Hope With Answers Living with Lung Cancer Podcast brings you stories about people living, truly living with lung cancer. The research is dedicated to finding new breakthrough treatments and others who are working to bring hope into the lung cancer experience.
- Jordan Sherman: Today we are talking with Dr. Jacqueline Bainbridge to get the latest information in the research surrounding CBD, Cannabis and lung cancer.
- Diane Mulligan: Dr. Bainbridge is a clinical pharmacist at the Skaggs School of Pharmacy and Pharmaceutical Sciences at the University of Colorado Anschutz Medical Campus.
- Jordan Sherman: Dr. Bainbridge, can you tell us a little bit more about yourself and what you do?
- Dr. Bainbridge: I'm happy to, thank you so much. So I'm a clinical pharmacist at the Skaggs School of Pharmacy and Pharmaceutical Sciences here on the University of Colorado Anschutz Medical Campus. So I specifically work with neurology patients. Specifically we're talking about the central nervous system, so epilepsy, multiple sclerosis, movement disorders, restless leg syndrome. But then I do clinical research and that's part of my passion. Currently, we're working on many Cannabinoid or Cannabis clinical trials.



Diane Mulligan: It's so exciting when we think about potential for CBD to be used to help with the opioid crisis. I know that's one of the things that really excites us. But today we're talking about lung cancer and let's start at the beginning. So can you tell us the basic difference between THC and CBD? I even heard that CBD can minimize the euphoric effects of THC? Is that right?

Dr. Bainbridge: So we do talk about some of that component, especially when you have unwanted side effects potentially with THC. You can minimize some of those or decrease them with CBD. So when we talk about the Cannabis plant, it's really pretty interesting because Cannabis, there's more than 400 compounds in the whole Cannabis plant, closer really to 500 compounds. And we know that over a hundred Cannabinoids have been identified in the Cannabis plant.

Now, we don't know what all of those Cannabinoids do but there is research on some of those particular Cannabinoids. The two most abundant Cannabinoids and that's why we get most of the attention with the two most common, which are THC or Delta-9-Tetrahydrocannabinol or CBD or and CBD, which is Cannabidiol.

So with those two products, that's where we have most of our research. We still need more research but we try and pick the disease state or symptomatology of what people are trying to alleviate. If we're talking about pain or if we're talking about spasticity or if we're talking about sleep, that leads you in one direction or the other, picking a Cannabinoid to start with. And then oftentimes we'll add in a second Cannabinoid to decrease the effect of THC.

Jordan Sherman: I think that's a great point. We do have some research out there but more research is needed. But within the bounds of the research and the things that we know, Dr. Bainbridge, how could CBD potentially be used for lung cancer patients?

Dr. Bainbridge: So when we look at patients specifically for lung cancer, the first thing that I think of is alleviating symptomatology because we really think and we don't think that Cannabis cures particular conditions, it alleviates symptomatology. And that's the best we know now with the research that we have. And as you mentioned, Jordan, we definitely do need more research. So usually when you're talking about an effect in lung cancer ... And I will say there's only a couple case reports out there.

So definitely I wouldn't say everyone out there go out and stop taking your current chemotherapy or immunotherapy or don't have surgery, just go on CBD.



I think that is a bad choice. I think that this needs to be driven by the clinical specialists, oncologists in those areas and the research needs to be there. So when you look at CBD ... And I did elicit some of my colleagues who work in the oncology world and there is some thought that CBD may have a potential to alter the immune environment and stimulate a response. So making it more responsive to therapies or potentially more curative.

But I think it needs to be more robust and certainly when we're evaluating those clinical trials, we need to look at what the design of the trial was and what were their markers, what did they use as endpoints in these particular patients. I know in the oncology world and the lung cancer world, they don't really have patients. They don't direct them away from using Cannabis type products.

So I would say that oncology is one of the first areas that we actually realize that Cannabinoids could be helpful in those patients, whether we're talking about stimulating appetite or if we're talking about nausea and vomiting, et cetera. So I think they were really the first people or groups of practitioners that freely used Cannabis to be helpful in that medical therapy. So I'm hopeful that those clinical trials continue and really take hold and we have positive results. That would be really great.

Diane Mulligan: You spoke earlier about, there's been some hope in the area of small cell lung cancer and CBD. Can you tell me a little bit more about that and what lung cancer patients should know about that?

Dr. Bainbridge: I think the first thing to know is we definitely need more of that data but those few case reports out there and their case reports are interesting. But what we don't know about that is, what were they using specifically? Did the CBD also have THC in it? So was it both of them together that really produced the effect? Those individuals need to work with their oncologist very closely because we do know that there are drug interactions that we see with both CBD and THC. So really important to have that opinion and hopefully those people are working with a clinical pharmacist in their clinics and they can ask specific questions of their oncologist and their clinical pharmacists.

Jordan Sherman: Dr. because this research is so fresh, there's going to be a lot of gray areas out there. There's going to be a lot of misinformation. So how do you best advise people about where they should do their research when looking into CBD? And if they're interested, do you have any resources that you could provide them that would give them some concrete information that is factual, that eliminates any type of uncertainty into the research between CBD and lung cancer?

Dr. Bainbridge:

And I think that is such an important point because we know that so many people are getting their information from budtenders. So, again, it's best to go back to your pharmacist or your physician for more information. Now, I would say that you can post anything on the Internet, literally anything. So I would recommend that patients don't go just to any site on the Internet, especially group chats, that sort of thing for their information. They should really tap into resources.

We have natural medicine databases, we have several other resources but it's best to look in their area and find a practitioner who works in the area of natural medicines or Cannabis specifically or even their pharmacist. So depending on what state they're in, the laws are very different and their resources are very different. There are actually some dispensaries where there has to be a pharmacist with the end product.

So whether that's a review of patient's medications and why they're consuming the products or if the pharmacist has to be physically present during counseling with a particular product, just as you would see in a pharmacy. So there are a handful of states that have legislation around that. What works for one person might not work for another person. And because it's an unregulated condition, or not condition, but unregulated business, oftentimes what you find on the label isn't what you find in the bottle.

So I'll give you an example. We sent somebody into a grocery store and they purchased what they thought was a bottle of CBD. So from the grocery store, it was locked up, not in the pharmacy but locked up behind a counter and they had to ask for somebody to give them this particular product. They took that product home ... And I would recommend people do this. Went to the website, put in the lot number or that batch number and pull up a certificate of analysis because that will tell you what's exactly in there.

Now, dispensaries will also give you a certificate of analysis and should have a certificate of analysis with the product that they're giving to you. But you can go back and look and see what is in that specific product. So in the scenario that I just highlighted, basically there was 81 milligrams of THC in a bottle that was clearly labeled as CBD. And the person consumer thought they were buying only CBD, where that could be a huge problem in terms of driving, in terms of drug testing, et cetera.

So it's really important to go back to that certificate of analysis and see what's exactly in those products. You can find resources that are people that are in the



industry that are really trying to make a difference and help consumers or patients. And one of those particular companies we work with on a regular basis, we know the CEO. The CEO will help patients with whatever blend it is that they're looking for and it's purified and that you're going to get the same exact product time, after time, after time.

Diane Mulligan: Yeah, I think that's so important. It's also interesting that oncologists, especially those who are not affiliated with the research institution, are treating all kinds of cancers. And so when you ask your oncologist about CBD, he or she may or may not have the latest information on it.

Just if you ask a general oncologist about lung cancer and there've been so many advances in the past five years that sometimes it's hard to keep up. So my question is, what should you do if you're very interested in learning more about this and you are interested in and potentially using CBD and you talk to your oncologist and he or she says, "I really am not up on that." What should you do in that situation?

Dr. Bainbridge: So in that situation, I would recommend, again, reaching out to me, to someone else, that consults and helps patients with these types of questions. I would probably start with your pharmacist or practitioner and ask what they tend to use. So there's natural medicines database. Oftentimes people can access that, sometimes they can't access that. But I think that's a good resource and I think their pharmacist can be a really good resource in that scenario. I would stay away, I would try and stay away from Dr. Google and especially if you're looking at chat rooms ... Or this is how Jackie felt on this particular product. So this is what I think that you need to use.

Jordan Sherman: There are so many different ways that we can consume CBD, whether it's an edible, it could be tincture, it could be vaping, could be creams, topicals, what have you. What's kind of the best method to take CBD? Or does it differ between what types of symptomology you're trying to treat?

Dr. Bainbridge: Well, I'll tell you, Jordan, that's a double-edged sword. So from a clinician standpoint and a researcher, we want to see serum concentrations quickly because we're monitoring serum concentrations. We want to see if the patient, how they respond or a certain side effect, does that match up with what we're actually seeing as a serum concentration? So going to the site of action. So now obviously we're not having patients smoke Cannabis, as we know there's combustibles and that's really a bad health issue.



So then there's vaporization. Vaporization, provided it's done correctly, is safer than smoking. It's now, if you're talking about creams or tinctures, by definition from the pharmaceutical world, will have alcohol in them that helps drive the product into the skin. There are also patches to get those products actually through the skin barrier. You have to use specific adhesives on the patches. So it just depends on your product.

But that's going to be the slowest getting into your system is a topical and I would be, well, when you talk about suppositories, that's a fast way to get it into the body. Vaginally, you can get things into the body pretty quickly, too, because there's a rich blood supply. But creams, tinctures, that sort of thing, it's going to work more locally. However, you can see serum concentration bumps depending on the product that you're using.

Now, that leaves me with edibles. So edibles are a different ball of wax. So we know that there's a high first pass metabolism through the liver and we know that the bioavailability isn't really great when we consume oral products. So as an example, same product, same person. One in four times that you take an edible, you will have a different response. And that all just has to do with the bioavailability and our body. So pharmacokinetically and pharmacodynamically how we're seeing the product and how we're metabolizing the product.

So that was a great question and consumers need to know also that the difference in how you take these products will produce different effects in the body. And it depends, it will produce faster effects if you're using a combustible or in inhalation method it won't last as long. But if you're taking an orally consumed product, there's a lag time to onset and that's problematic because people want it now and those effects will last longer than your vaporized type products or your inhalation products.

Diane Mulligan:

Thank you to Dr. Jacqueline Bainbridge with the Skaggs School of Pharmacy and Pharmaceutical Sciences at the University of Colorado Anschutz Medical Campus. Make sure you listen in to our second CBD and Lung Cancer Podcast where we will dig deeper into whether CBD may or may not be right for you.

Make sure to subscribe to the Hope with Answers Living with Lung Cancer Podcasts. You'll be notified every time a new episode is available. So visit us online at lcfamerica.org where you can find more information about the latest in lung cancer research, new treatments and more. You can also join the conversation with lcfamerica on Facebook, Twitter and Instagram.

