Cancer and Cannabis: Initial Observations of an Oncology and Hospice Nurse

Potential benefits and risks of managing Cancer Symptoms and Treatment Side Effects with Medicinal Cannabis

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This information is based on:

- Observations and interviews with more than 1,000 oncology patients who use(d) medicinal cannabis
- The majority of patients had breast cancer but I also interacted with hundreds of patients with other cancers as well.
- Most observations were of adult patients, but also more than twenty pediatric oncology patients.
- Pre-clinical and clinical research articles
- Personal communication with top Researchers and Practitioners from around the world
- More than 2 years of intense focus on this topic

Clinical Observations:

- Tens of thousands of cancer patients are using medicinal cannabis, often without any guidance from healthcare practitioners
- Most clinicians, even those recommending cannabis, and patients reported believing there were no real risks of adverse drug interactions.
- With lower oral dosing of no more than 75 to 100 mg of CBD, and/or 25 mg of THC/THCa per day, or *moderate inhaled doses*, interactions appear minimal, if at all. Most appeared to have *no* adverse effects, only benefits.
- **Medicinal Cannabis, used with some *reasonable* caution, provided profound benefits to most patients, including often *extremely* effective symptom control of:**
  - **Pain, especially nerve and bone pain;**
  - **Insomnia;**
  - **Nausea;**
  - **Anxiety;**
  - **Body aches and joint inflammation**

Patterns of clinical cancer regression or suppression responses are emerging among many cancer subtypes, that appear to closely match what pre-clinical researchers indicated *may* be possible.

- ***Not all cancers appear equally vulnerable to anticancer mechanisms of cannabinoids, especially to THC and/or THCa.***
- ***Most cancers are appearing vulnerable to significant dosing of least CBD but the THC/THCa dosing needs careful consideration and monitoring.***
- **Approximately 30-50% of Patients dosing with large amounts of THC, above about 50-100 mg per day, *reported faster tumor growth within 6 to 8 weeks, which slowed within 1 month of reducing THC and/or THCa dosing to 25 mg or less per day.***
  - *Perhaps they suppressed their Helper T-cell proliferation enough to allow for faster tumor growth *and* their cancer was not vulnerable to THC and/or THCa?*
- **Patterns of response provide clinical information.**

Cancer and Cannabis: Drug interaction Potential:

- **Cannabidiol (CBD & CBDa) may potentially act as a moderate inhibitor of at least: CYP2C19, CYP2C9, CYP2D6 and CYP3A4 as well as p-Glycoprotein transport.**
  - This (at least with CYP3A4) appears to begin happening at about 75 mg of oral CBD, per day, with stronger effects seen at 100+ mg per day.
- **THC & THCa may potentially act as a moderate inhibitor of at least CYP2C9, CYP2C19, CYP3A4 as well as p-Glycoprotein transport.**
  - This appears to happen beginning at about 50 to 100 mg of oral THC, per day, but seems much less certain.

Apparent drug interactions observed, using large oral doses with,

- Blood thinners such as **Warfarin, Coumadin, Lovenox (increased bleeding times observed)**
- **Tamoxifen** concern: This is a prodrug and requires CYP450 metabolism to its more effective metabolites. Therefore use with large, especially oral, doses of cannabis medicines could interfere with metabolism.
- Oral breast cancer treatments such as: **palbociclib (Ibrance)**, **ribociclib (Kisqali) as I repeatedly observed:**
  - **Decreased neutrophils,**
  - **Increased fatigue and/or**
  - **Elevated liver enzymes, likely due to CYP3A4 inhibition of clearance of these drugs, which are toxic to the liver**
  - **After patients were using over about 75 to 100 mg CBD orally per day.**

Considering the use of Cannabis with Immunotherapies:

Because most commonly used immunotherapies depend on robust Helper T-cell proliferation for anticancer effects, avoid or minimize concurrent use with immunotherapies, such as PDL1 inhibitors, due to potential suppression of Helper T-Cells with high doses of THC/THCa, *especially if their pathology testing showed very high chance of immunotherapy potential benefit.*

- Common drug names of this type are:
  - Pembrolizumab (Keytruda)
  - Nivolumab (Opdivo).

The immunosuppressive effects of high-doses of cannabis must be outpaced by the anticancer effects of cannabis dosing:

- This appears under-appreciated by most patients and even their recommending cannabis healthcare practitioners.
- Medicinal cannabis is often extremely effective in managing autoimmune diseases, which involve abnormal and harmful Helper T-cell proliferation. Some are getting profound benefits when higher doses of THC/THCa are used to suppress Helper T-cell proliferation.
- **But for *some* cancer patients, this same effect appears to allow for faster tumor growth.**
- **Reassessment of tumor regression or progression must be done within 6 to 8 weeks of starting any high dose cannabis protocol, as with *any* therapy. Continued monitoring is crucial, as adjustments may be needed.**

Best results with cancer treatment appear most often when both optimized conventional and cannabis therapies are carefully used together, rather than exclusively as an "either/or" option. *Unfortunately, many using medicinal cannabis in the hope of treating their cancer do not realize this.*

- In some cases, patients reporting significant cancer/tumor regression after using large doses of cannabis *appear to be only suppressing at least some remaining cancer cells and the cancer progresses again after cannabis dosing is stopped.*
- If cannabis dosing is working and is well tolerated by the patient, it may need to be continued at some significant level to continue to suppress their cancer. There appear to be no valid "easy" ways to determine best "maintenance" dosing.
- We urgently need to begin considering "what's next" for these patients, as there appears to be very strong potential benefit in combination therapies.

Conclusion and Steps Forward:

- Cannabis appears to have a very promising role in cancer care but there is primarily pre-clinical research at this time.
- As we strive to serve our patients, collaboration among researchers and clinicians will ideally lead to better outcomes as guidelines for care become more established.
- Acknowledging that all medicines, including plant-based medicines, may interact is a foundation of good medicine.
- Collaboration, Education and Advocacy are required to move the benefits of cannabis into conventional oncology treatment.
- Combination therapies may provide the best outcomes.

I am exploring various assessment methods, such as serial monitoring of serum for chemicals/proteins such as:

- HER2 Activity -- with serum HER2 Elisa or other testing;
- Neuroendocrine differentiation markers such as serum Chromogranin A,

in addition to common cancer antigens, to assess initial and ongoing therapeutic responses to any therapy used, cannabis or conventional. This is in addition to standard imaging techniques, such as CT-PET scans. Valid assessment methods assist with monitoring cancer's response to cannabis, just like any other therapy.

Disclaimer: Please do not consider any information presented herein to be medical advice or to encourage reckless self-treatment with large doses of medicinal cannabis preparations. The goal of this presentation is educational and is intended for Healthcare Practitioners and Researchers. Any reference to THC, THCa or CBD actually means THC-rich or CBD-rich cannabis medicines as I did not observe anyone knowingly using only isolated cannabinoids.

I am deeply grateful for the brave:

- **Patients**
- **Researchers**
- **Physicians and Nurses**
- **Support Groups**
- **Dedicated Medicinal Cannabis Advocates & Medicine Makers around the world who have generously shared their knowledge & experiences with me.**

Without their determined efforts, often at great personal risk, none of this would be possible.

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She is an Oncology & Hospice Nurse Navigator, supporting many with metastatic and treatment-resistant disease, especially those with rare subtypes of cancer with no effective conventional therapies available to them.

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