Vol. 8, Issue 4
May 2016

CANNABINOID CHRONICLES

Medical Cannabis News and Information

How Harmful Is Smoking Cannabis?

Smoking, the act of burning something and purposefully inhaling the smoke, has long been determined to have a negative effect on our respiratory system. Research on this topic has usually centred on tobacco, but cannabis smoking is gaining attention especially in light of recent and upcoming regulation.

Cannabis smoke is unhealthy for the respiratory system. The harmful chemicals are non-psychoactive byproducts of plant matter combustion known as polycyclic aromatic hydrocarbons (PAHs). On a weight-to-weight basis, cannabis tars are higher in PAHs than tobacco and have been shown to be carcinogenic in laboratory cell culture studies. Also, pre-cancerous cell changes have been observed in the respiratory tracts of long-term, heavy cannabis smokers. Cannabis smoke also includes gaseous toxins that are thought to be risk factors in heart and respiratory diseases.

Despite this, and it may seem counter-intuitive, cannabis smoking - "even heavy long-term use" - does not cause cancer of the lung, upper airways, or esophagus. Numerous studies have failed to find a relation between cancer and cannabis-only smoking. Also, there is little evidence linking cannabis to non-respiratory forms of cancer (i.e. bladder, colon, and rectal).

So why haven't we heard about this. Quite likely it is prohibitionists and drug makers that don't want us to know. Sadly this information has been around for over 40 years (and, arguably, possibly longer) and few have taken serious notice.

A US oncology research project back in 1975 described how the growth of a certain type of lung cancer in mice was inhibited by the oral administration of three naturally occurring cannabinoids: delta-9 THC; delta-8 THC; and CBD. Additionally, researchers found that delta-9 THC reduced spleen inflammation associated with leukemia, that the degree to which tumours were prevented from growing depended on the amount of cannabinoids administered, and that bone marrow treated with delta-8 and -9 THC showed a dose-dependent resistance to cancer. The study was treated as an anomaly, and the results were inconvenient for then-President Nixon's "War on Drugs". Research that pointed towards the benefits of cannabis was forbidden, and the report was ignored. It was about this time that the National Institute on Drug Abuse (NIDA) was created to be the gatekeeper of research into illegal drugs; its mandate was/is to research only the harm posed by such substances.

Then, in 1996, a research report revealing the anti-carcinogenic properties of cannabinoids came to the attention of AIDS specialist Dr. Donald Abrams. The US government was trying to prevent the release of the final public version two years after the draft version (such documents are typically released after six months). Why? The report flew in the face of all the government propaganda, finding that rats and mice which were orally dosed with varying levels of THC had a significantly greater survival rate than those that were not. It was discovered that THC was effective in reducing cancer of the breast, uterus, pancreas and testicles.

Ironically, the go-to-research-doctor ....continued Page 4

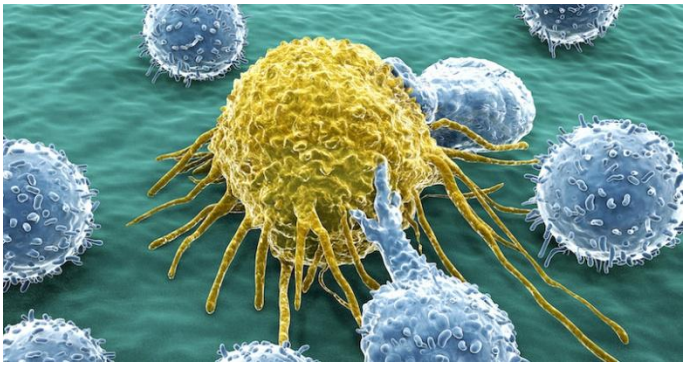


Image: https://www.medicalcannabisdispensary.co.za/cannabis-vs-cancer-studies-suggest-cannabinoids-may-kill-human-cancer-cells/

International Association for Cannabinoid Medicines (IACM) Bulletin

Human: Cannabis reduces the stretch reflex in patients with multiple sclerosis

In a clinical study with 57 patients with multiple sclerosis, cannabis reduced the stretch reflex, Italian researchers wrote in the journal International Clinical Psychopharmacology. They also observed a reduction in a numeric rating scale for spasticity and spasticity according to the modified Ashworth scale. There was a low concordance between the three measures, which according to authors was "likely related to the different aspects of muscle hypertonia assessed."

Stretch reflex responders were taking a significantly higher number of sprays of the cannabis extract Sativex, "suggesting that a higher dosage would add benefit if tolerated. The present study confirms the efficacy of cannabinoids in reducing spasticity in patients with MS, suggesting a higher sensitivity and specificity of the stretch reflex compared with other measures."

Source: http://www.ncbi.nlm.nih.gov/pubmed/27003093

Human: Cannabis use reduces use of opioids in chronic pain patients

The medical use of cannabis reduced the amount of opioids by 64% according to a questionnaire completed by 244 patients of a medical cannabis dispensary in Michigan. School of Public Health, University of Michigan, Ann Arbor, USA.

Source: http://www.ncbi.nlm.nih.gov/pubmed/27001005

Animal: Endocannabinoids possess anti-metastatic and anti-invasive effects in cancer

In mice, blockade of the enzyme (FAAH) responsible for the degradation of several endocannabinoids reduced metastasis in lung cancer in a dose-dependent manner. In tissues of the animals these blockers (AA-5HT, URB597) also inhibited cancer invasion into neighbouring tissues. Institute of Toxicology and Pharmacology, Rostock University Medical Center, Rostock, Germany.

Source: http://www.ncbi.nlm.nih.gov/pubmed/26930716

Animal: CBD was more effective than THC in neuroblastoma

Neuroblastoma is one of the most common solid cancers in children. In studies with human neuroblastoma cells and mice, CBD showed more anti-cancer effects than THC. Sheba Cancer Research Center, Israel.

Source: http://www.ncbi.nlm.nih.gov/pubmed/27022310

Cannabinoid receptors play an important role in vision

The retina is a light-sensitive layer of tissue in the eye. New research with monkeys shows that both the CB1 and the CB2 receptor play an important role in the function of the retina. University of Montreal, Canada.

Source: http://www.ncbi.nlm.nih.gov/pubmed/27069692

Human: Cannabis use was associated with a reduced early death after heart attack

Cannabis use was associated with a reduced in-hospital mortality after myocardial infarction. This is the result of a study by researchers of the University of Colorado in Aurora, USA, which compared 3854 patients, who used cannabis, with 1,273,897 patients without cannabis use. They analysed hospital records for 8 states on acute myocardial infarction (AMI). Clinical profiles and outcomes in patients with reported use of cannabis were compared to patients where cannabis use was not reported. Patients who were older than 70 years, and those who used cocaine, methamphetamine or alcohol were excluded.

There was no difference between the two groups with regard to death, cardiac arrest and shock. However, patients who used cannabis had a small decreased risk of in-hospital mortality (OR 0.83). Authors wrote: "We report several new observations regarding the effect of marijuana use on outcomes following AMI. Most surprisingly, it appears that marijuana use is associated with decreased mortality post AMI."

Source:
http://content.onlinejacc.org/article.aspx?articleid=2508971&_ga=1.2577849.863088085.1460727742#tab1

Animal: Cannabinoids reduce an overactive bladder

In female rats with overactive bladder, a synthetic cannabinoid (CP55,940) which acts similar to THC improved bladder function mediated by both CB1 and CB2 receptors. Authors wrote that this cannabinoid "could be an effective treatment for patients with lower urinary tract symptoms." Leicester Royal Infirmary, University of Leicester, UK.

Source: http://www.ncbi.nlm.nih.gov/pubmed/26942594

Animal: CBD causes rapid anti-depressant effects

In a mouse model of depression researchers found "that CBD could represent a novel fast antidepressant drug, via enhancing both serotonergic and glutamate cortical signalling through a 5-HT1A receptor-dependent mechanism." Universidad de Cantabria, Spain.

Source: http://www.ncbi.nlm.nih.gov/pubmed/26711860

Animal: The analgesic effects of CB2 receptor activation are increased by carbon monoxide

A substance (CORM-2), which causes the release of carbon monoxide in the body increases the pain-reducing effects of a synthetic cannabinoid that activates the CB2 receptor in diabetic mice.

Source: http://www.ncbi.nlm.nih.gov/pubmed/27020787

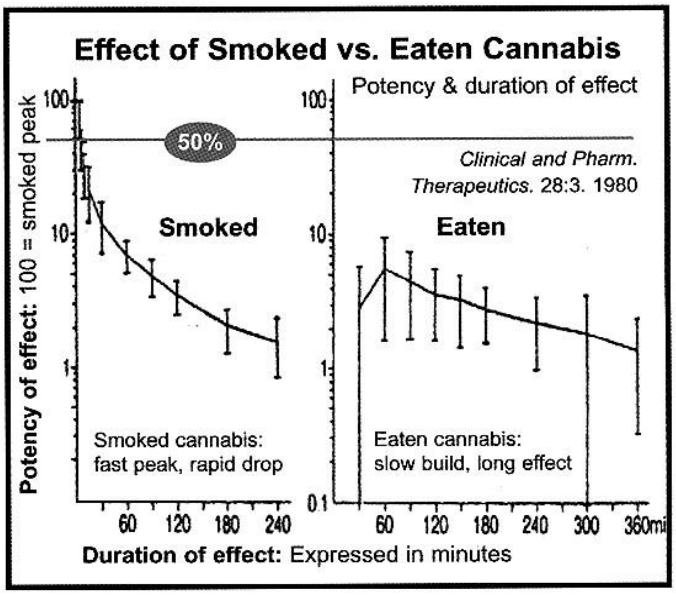
Dr. Abrams Summarizes Scientists Knowledge of Cannabis and Cancer

Dr. Donald Abrams is a pioneering AIDS and medical cannabis researcher and oncologist at the University of California at San Francisco.

"For the cancer patient, cannabis has a number of potential benefits, especially in the management of symptoms. Cannabis is useful in combatting anorexia, chemotherapy-induced nausea and vomiting, pain, insomnia, and depression. Cannabis might be less potent than other available antiemetics, but for some patients, it is the only agent that works, and it is the only antiemetic that also increases appetite. Inhaled cannabis is more effective than placebo in ameliorating peripheral neuropathy in a number of conditions, and it could prove useful in chemotherapy-induced neuropathy. A pharmacokinetic interaction study of vaporized cannabis in patients with chronic pain on stable doses of sustained-release opioids demonstrated no clinically significant change in plasma opiates, while suggesting the possibility of synergistic analgesia."

"Aside from symptom management, an increasing body of in vitro and animal-model studies supports a possible direct anticancer effect of cannabinoids by way of a number of different mechanisms involving apoptosis, angiogenesis, and inhibition of metastasis. ***Despite an absence of clinical trials, abundant anecdotal reports that describe patients having remarkable responses to cannabis as an anticancer agent, especially when taken as a high-potency orally ingested concentrate, are circulating. Human studies should be conducted to address critical questions related to the foregoing effects.***" (emphasis added)

Source: http://www.current-oncology.com/index.php/oncology/article/view/3099



Cannabis vs. Tobacco

Is smoking cannabis as bad as smoking tobacco? More harmful? Less harmful?

Contrary to what prohibitionists tend to say, that smoking a couple of joints a day is equivalent to a pack of cigarettes a day, the latter is true. Daily cannabis smokers show less evidence of respiratory damage than pack-a-day cigarette smokers.

Why is this?

One reason is that one to two joints-per-day cannabis smokers ingest less smoke than pack-a-day cigarette smokers. However, there are usually no filters in joints and cannabis smokers tend to inhale more deeply, thus exposing themselves to more smoke per inhale. Scientists have normalized the toxins absorbed by cannabis smokers as compared to tobacco smokers with the average joint (0.4 grams) being equivalent to between 1.5 and 2.5 cigarettes.

Another reason is that tobacco smoke tends to penetrate the lungs more deeply. Cannabis smoke tends to concentrate in the larger, upper air passageways of the lungs and throat, while tobacco smoke penetrates to the smaller, lower passageways. Interestingly, cannabis smoke alone does not cause emphysema, a progressive lung disease caused by tobacco smoking.

A third difference is their principal active ingredients. Cannabis contains cannabinoids, and growing evidence suggests that they have cancer-suppressing qualities. Tobacco contains nicotine, which has properties that promote cancer. Tobacco is also an addictive vasoconstrictor and stimulant that is known to promote circulatory and heart disease.

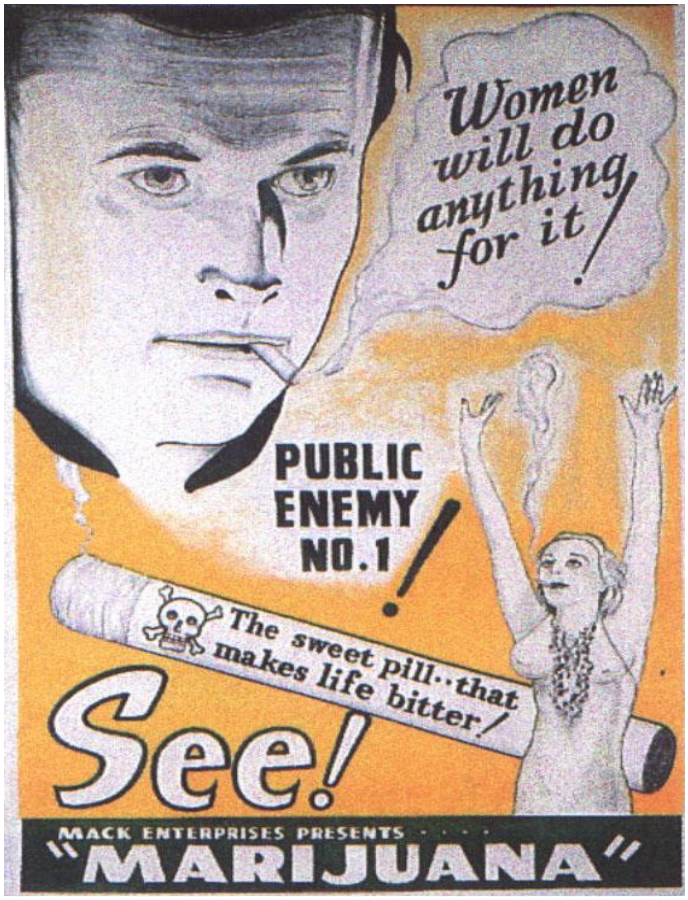
There are biochemical reasons why cannabis smoke is not carcinogenic, according to researcher Dr. Melamede:

- THC acts to suppress the conversion of polycyclic aromatic hydrocarbons (PAHs) in cannabis smoke into active carcinogens, whereas nicotine has the opposite effect.
- Nicotine tends to inhibit the death of diseased cells (apoptosis), while cannabinoids don't.
- Nicotine promotes the growth of blood vessels feeding tumours (angiogenesis), while cannabinoids have the opposite effect.

Dr. Melamede concludes, "…current knowledge does not suggest that cannabis smoke will have carcinogenic potential comparable to that resulting from exposure to tobacco smoke."

Source:

Gieringer, Dale., E. Rosenthal and G.T. Carter (2008). ***Marijuana Medical Handbook***. Oakland, CA. Quick American. pp 130-132



Continued from Page 1... for the government and whose previous research had suggested a link between chronic cannabis smoking and lung cancer (and the government has never forgotten), performed a large, population-based, case-controlled study in 2005 that *does not conclude* that smoking cannabis causes cancer. The data also suggested that cannabis actually inhibited the formation and growth of cancer cells. Looking at the net effect of the negative and positive chemicals inhaled, according to Dr. Tashkin, the net effect is a possible statistical decrease in instances of lung cancer for cannabis smokers compared to those who don't smoke at all.

Pulmonologist Dr. Tashkin's research was the first major epidemiological study to confirm the clinical data on the role of cannabinoids receptors and suppressing cancer. Tashkin admitted that his team had "failed to find any positive association between marijuana use [and cancer], even heavy marijuana use. If anything the risks were a little bit less."

(After performing research for NIDA for over 30 years, and at one time opposed to cannabis legalization, Dr. Tashkin recently has endorsed legalization.)

The risks of respiratory cancers due to cannabis smoking remain uncertain but the balance of evidence shows that they are less than expected. There is evidence that cannabinoids have cancer-suppressing qualities. Nevertheless, cannabis smoke does aggravate the risk of other respiratory diseases and it is good practice to utilize alternate delivery forms such as vaporization, or oral, topical or rectal ingestion.

If indeed smoking cannabis does not cause cancer, why does California still require that dispensaries put up a sign (as per Prop. 65) stating that cannabis contains chemicals that cause cancer? Chalk it up to politics.

Source: Werner, Clint (2011). ***Marijuana, Gateway to Health***. San Francisco, CA: Dachstar Press. pp 17-22

Gieringer, Dale., E. Rosenthal and G.T. Carter (2008). ***Marijuana Medical Handbook***. Oakland, CA. Quick American. pp 126-130

http://www.beyondthc.com/a-sign-of-the-times/

RESOURCE DIRECTORY:

AIDS Vancouver Island
3rd Fl- 713 Johnson St, Victoria
250-384-2366

VIPWA
101-1139 Yates Street, Victoria
250-382-7927

The Action Committee of People with Disabilities
948 View Street, Victoria
250-383-4105

MS Society of Canada
1004 North Park Street, Victoria
(250) 388-6496

HepC BC
2642 Quadra Street, Victoria
250- 595-3892

BC Cancer Agency
2410 Lee Ave, Victoria
(250) 519-5500

Canadians for Safe Access
www.safeaccess.ca

John W. Conroy, Q.C.
1-877-852-5110 (toll free)
www.johnconroy.com

Kirk Tousaw, Barrister
604-836-1420
www.tousawlaw.ca

DrugSense
www.drugsense.org

BC Coalition of People With Disabilities
1-800-663-1278

Health Canada
http://www.hc-sc.gc.ca/dhp-mps/marihuana/index-eng.php

Drug Policy Alliance
www.drugpolicy.org

Media Awareness Project
www.mapinc.org

Together Against Poverty Society
302-895 Fort Street, Victoria
250-361-3521

"There is no reason good can't triumph over evil, if only angels will get organized along the lines of the Mafia."

-- Kurt Vonnegut (author, 1922 - 2007)