Health Bits and Pieces (HFN 31:1)

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New Wonder Drug

Research on the effects of marijuana (*Cannabis sativa*), including research by the Federal government, goes back to the early 1970s. The early quest was to discover the dreadful hazards of regular use and its properties as a "gateway" to hard drugs. Researchers first looked for carcinogenic properties since the link between tobacco smoke and lung cancer was accepted by that time. Mice implanted with various types of cancer including leukemia were treated with cannabinoids (unique active constituents of marijuana). The results were striking. Cannabinoids, including THC (tetrahydrocannibinol), shrank tumors and extended lifespan in a dose-dependent manner, meaning that these beneficial effects were even stronger at higher doses. *Munson, AE et al., "Antineoplastic Activity of Cannabinoids,"* Journal of the National Cancer Institute, *Sept. 1975, pp. 597-602.*

This research was repeated almost 20 years later at Kaiser-Permanente, a large HMO, in a study sponsored by the National Institute on Drug Abuse (NIDA). Mice and rats were given massive doses of THC in search of carcinogenic or other toxic effects. Again, the test animals had fewer cancers than controls and lived longer, and again in "a dose-dependent manner." *NTP Technical Report on the Toxicology and Carcinogenesis Studies Of 1-Trans-Delta-9-Tetrahydrocannabinol, CAS No. 1972-08-3, in F344/N Rats and B6C3F Mice, Gavage Studies.*

Another animal study showed that metastatic breast-cancer cells became less metastatic with cannabidiol in "a concentration-dependent fashion." This implies that use of marijuana could lengthen survival time even in advanced cases. Quoting from the study: "CBD (cannabidiols) represents the first nontoxic exogenous agent that can significantly decrease Id-1 expression in metastatic breast cancer cells leading to the down-regulation of tumor aggressiveness." And according to lead researcher Sean McAllister, "Cannabidiol offers hope of a non-toxic therapy that could treat aggressive forms of cancer without any of the painful side effects of chemotherapy." *McAllister S, Christian R, Horowitz M, et al., "Cannabidiol as a novel inhibitor of Id-1 gene expression in aggressive breast cancer cells,"* Molecular Cancer Therapeutics*, 2007; 6(11): 2921-2927.*

Dope gets you through times of no money…

But enough about the laboratory research; what about its use in humans? Over the last few years marijuana is being prescribed to cancer patients allowing them to better manage symptoms, particularly nausea, loss of appetite, and pain. But the first clinical study to evaluate the antitumor effect of THC in human beings was carried out in Spain by Guzman *et al.* at Complutense University in 2006. The study found that THC "inhibited tumour-cell proliferation." *Guzmán M, Duarte M, Blázquez C, et al., "A pilot clinical study of Δ^9-tetrahydrocannabinol in patients with recurrent glioblastoma multiforme,"* British Journal of Cancer *(2006) 95: 197–203, doi:10.1038/sj.bjc.6603236, published online 27 June 2006.* Fears of a link to lung cancer have been dispelled by human studies. An epidemiological study followed 65,000 patients at Kaiser Permanente for almost 10 years and found that marijuana smokers who did not use tobacco had no increased risk of lung or any other type of cancer, compared to tobacco smokers who had dramatically higher rates. *Sidney, S. et al., "Marijuana*

Use and Cancer Incidence (California, United States)," Cancer Causes and Control *1997; Vol. 8: 722-728.* A study at UCLA funded by NIDA also found a somewhat lower risk of cancer in even heavy marijuana smokers in comparison with a 20-fold increase of lung-cancer risk in tobacco smokers. *Tashkin D, "Marijuana Use and Lung Cancer: Results of a Case-Control Study,"* American Thoracic Society International Conference*, May 23, 2006*.

…Better than money gets you through times of no dope

Neurologists have discovered that there are neurotransmitters (chemicals that conduct nerve signals) very similar in structure to the active constituents of marijuana, and have named them cannabinoids. This is analogous to the discovery in the 1970s of endorphins, morphine-like chemicals naturally produced in the body, which relieve pain and offer a sense of well-being. The "Endocannabinoid System" (ECS), as it has been named, helps maintain biological systems by communicating potential risk of injury between cells. Cannabinoids relieve certain types of pain that opioids like morphine, codeine, and Vicodin cannot alleviate, such as neurogenic pain that comes from the glia, the support structures of the nerves. *Russo E, "Cannabinoids in the management of difficult to treat pain,"* Journal of Therapeutics and Clinical Risk Management*, 2008; 4(1): 245–259, Published online 2008 February, PMCID: PMC2503660.*

Bad News for the Dopers

William Courtney is one doctor who is collecting dramatic case histories of patients recovering from a variety of major medical complaints using raw juice from the marijuana plant. He claims this is the most powerful and effective way to use the plant. The juice has no psychoactive properties. There is no marijuana "high" unless the plant is burned or otherwise heated. So this is an important warning: if you juice the plant, it would be dangerous to heat the juice because the psychoactive effect would be many times stronger than from typical smoking or cooking. The amount of THC in a cup of juice can be much higher than the usual dose, as much as 100 joints (marijuana cigarettes). This could make the user comatose for days. The leaves can be psychoactive even when heated. 90 to 99% of its medicinal action is destroyed with heat. According to Dr. Courtney, "If you heat the plant, you will decarboxylate THC-acid and you will get high, you'll get your 10 mg. If you don't heat it, you can go up to five or six hundred milligrams & use it as a dietary cannabis . . . and push it up to the anti-oxidant and neuro-protective levels which come into play at hundreds of milligrams."

Dr. Courtney is not an advocate of smoking marijuana to get high. He considers THC when heated a "poison." He and his wife Kristen have been collecting anecdotal cases of dramatic improvement in patients with even advanced stages of cancer, cardiovascular disease, and insulin-dependent diabetes. Non-psychoactive raw cannabis shows promise for treating schizophrenia, in the prevention of strokes, and in many other potential medical applications.

Zuardi A, Crippa J, Hallak J, et al., "Cannabidiol, a Cannabis sativa constituent, as an antipsychotic drug," Brazilian Journal of Medical and Biological Research*, (2006) 39: 421-429ISSN 0100-879X Review; Mishima K, Hayakawa K, Abe K, et al., "Cannabidiol prevents cerebral infarction via a serotonergic 5-hydroxytryptamine1A receptor-dependent mechanism,"* Stroke; a Journal of Cerebral Circulation*, 36 (5): 1077–82 (May 2005); Mechoulam R, Peters M, Murillo-Rodriguez E, Hanuš L, "Cannabidiol – Recent Advances,"* Chemistry & Biodiversity *4: 1678–1692 (2007), doi: 10.1002/cbdv.200790147.*

http://www.cannabisinternational.org/ (Dr. Courtney's website is called "Leaves of Grass.").

Dangerous Gateway Drug to a Pharmaceutical Lifestyle

Results of a recent study found that in patients with advanced arteriosclerosis or Type-2 diabetes, coronary-artery calcification "was significantly higher in more frequent statin users than in less frequent users." Another study found that statins increase the incidence of coronary artery plaques containing calcium by 52%. Statin drugs also deplete the body of Coenzyme Q-10, an essential factor for mitochondrial energy production. Mitochondria are cellular organelles that are like batteries. Heart muscle cells contain 100 times as many as ordinary skeletal muscle cells. Statins also damage muscles, nerves, increase diabetes risk, and increase discharge of protein in the urine. Other research shows that there is no reliable evidence that saturated fat causes diabetes, obesity, or heart disease.

Nakazato R, Gransar H, Berman D, et al., "Statins use and coronary artery plaque composition: Results from the International Multicenter CONFIRM Registry," Atherosclerosis*, (2012) Aug 24, Epub 2012 Aug 24. PMID: 22981406; Saremi A, Bahn G, Reaven P, "Progression of Vascular Calcification Is Increased With Statin Use in the Veterans Affairs Diabetes Trial (VADT),"* Diabetes Care*, (2012) Epub 2012 Aug 8, PMID: 22875226; Burlingame B, Nishida C, Uauy R, Weisell R (Guest editors), "Fats and fatty acids in human nutrition, Joint FAO/WHO Expert Consultation,"* Annals of Nutrition & Metabolism, *55 (1-3), 1-308, 2009. (Background papers) Issue release date: September 2009.*