

# Cancer and Marijuana

Most of the cells in our body divide and reproduce to replace older, worn-out cells. Most of these cells undergo programmed cell death, a normal process called apoptosis. Some cells escape their normally programmed cell death and continue in uncontrolled growth, invade locally, and spread by the blood stream or by lymphatic vessels. Though there are innumerable variations, these are the typical features of cancer.

**W**ithout all the usual euphemisms, treatment of cancer generally involves cutting it out, poisoning it, and burning it with radiation while trying to avoid damaging healthy tissues and organs.

Unfortunately, many of the treatments used are very strong and do cause side-effects, most commonly nausea and poor appetite. The nausea and appetite loss can be so severe that patients prematurely discontinue their cancer treatment.

## MARIJUANA IN CANCER THERAPY

Marijuana, as we have discussed previously in this series of articles, has

shown excellent benefit in relieving pain and nausea. Well-known for causing “the munchies,” marijuana stimulates the appetite. Decreasing nausea and improving the appetite makes patients much more likely to complete their needed chemo and radiation therapy.

In confronting a potentially fatal illness, many cancer patients suffer depression. Often this is crippling and does more to harm the patient than the actual disease.

Marijuana has remarkable anti-depressant effects, particularly true for sativa-dominant strains like “Trainwreck” and “Chemdawg.”

Because of pain, nausea, appetite, and depression, marijuana helps patients through the rockiest parts of their treatment.

As a brief aside, I would like to draw attention to another under-utilized treatment for the pain of bone metastases. Samarium-153 EDTMP, Quadramet™, is a radioactive agent that binds well to bone matrix and affords excellent relief of bone pain for cancer patients.

## MARIJUANA AND CURING CANCER

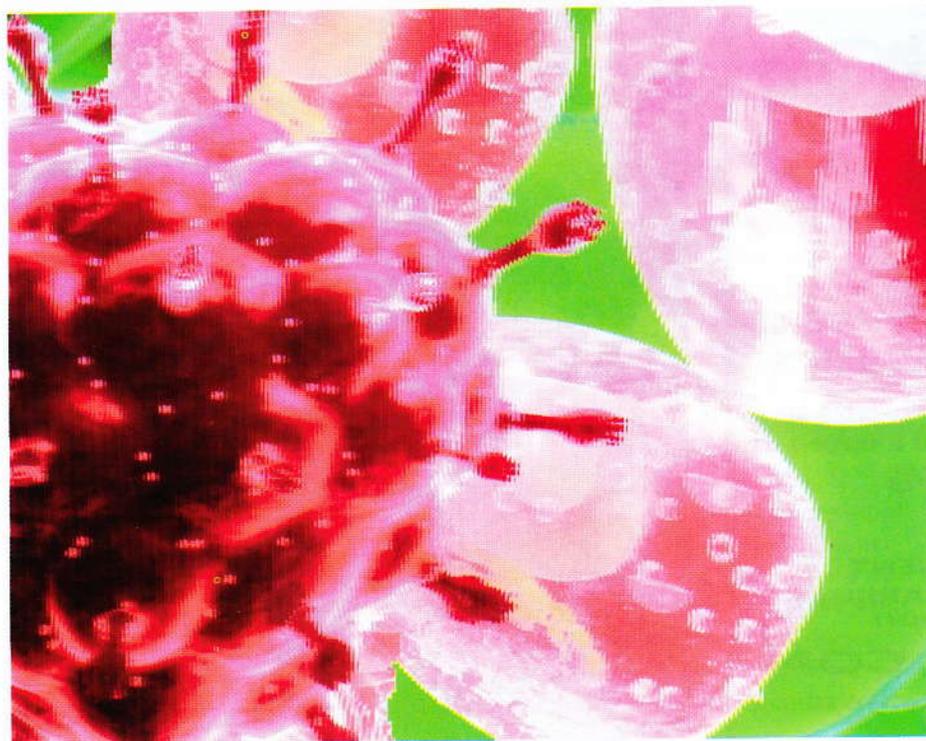
Marijuana’s palliative (symptom reduction) benefits have become so well known (outside of government offices) that a discussion of those is almost prosaic. What is less known is the evidence suggesting that marijuana cures cancers. There are animal and human studies, both laboratory and clinical, pointing towards marijuana as a potential cancer cure.

It is a dark irony that marijuana’s strongest opponents continue to claim that marijuana causes cancer. The National Institute of Drug Abuse-funded pulmonologist, UCLA Prof. Donald Tashkin struggled for decades to demonstrate that smoking marijuana causes cancer. He has finally given up.

Tashkin’s 2006 publication of his case-controlled study compared 1,200 patients with lung and head and neck cancers to a control group without cancers. Tashkin reported that, while tobacco smokers had a twenty-fold risk of cancer compared to non-smokers, marijuana smokers had lower cancer risk than non-smokers.

Of course, Tashkin’s findings merely echoed an earlier 1997 NIDA-funded study of 65,000 Kaiser HMO patients. These findings in humans were presaged by federally funded animal studies from the 1970s.

Federal marijuana policy stubbornly perseveres in a “Don’t confuse me with the facts” mode.



Studies, such as Liu's 2008 study on leukemia, have indicated that marijuana's ingredients synergistically (greater than additive) enhance the cell-killing effects of some chemotherapy agents.

Some of the most important research on marijuana and cancer has been conducted by Dr. Manuel Guzman's research group in Spain. His researchers have studied a type of brain cancer, malignant gliomas, even encompassing the most aggressive and rapidly fatal type, Glioblastoma Multiforme ("GBM").

In tissue cultures Dr. Guzman's research group has shown that marijuana's THC induces apoptosis and also inhibits the growth of blood vessels into cancerous tumors, an effect similar to some of the more novel anti-cancer drugs such as the monoclonal antibodies against Vascular Endothelial Growth Factor or "VEGF." In animals, they have shown marijuana-induced shrinkage of brain tumors.

*The combination of marijuana's ingredients (not just THC, but CBD, THCV, and all the rest) has been more effective against cancer than single isolated components of marijuana.*

Other researchers have corroborated these promising findings and the benefits are not limited to gliomas. A wide variety of cancers have demonstrated benefits from marijuana: breast, prostate, colorectal, stomach, leukemia, lymphoma, neuroblastoma, lung, uterine, cervical, oral, thyroid, pancreatic, bile duct, and skin.

Personally, one of the most interesting observations is that the combination of marijuana's ingredients (not just THC, but CBD, THCV, and all the rest) has been more effective against cancer than single isolated components of marijuana.

The week that I compiled this article I noted that a high-CBD strain, Soma A+ (tested at 6% THC, 5.7% CBD, a cross among Super Skunk, Afghani, Big Skunk Korean and

Afghani Hawaiian), quickly sold out at Oakland's Harborside Dispensary.

It is sound science that stimulates patient interest in such balanced marijuana strains. That said, instead of going where the science takes us, federal marijuana policy is moving in Big Pharma's direction—authorizing the use of patented or patentable (read "expensive" and "profitable") single agents—even though evidence so far suggests that single agent therapy is the least effective and least promising approach.

**NEXT MONTH: HEPATITIS C**

Any questions? Any topics you would like me to address in these columns? Ask anything at [thegreenleafaz.com](http://thegreenleafaz.com)