

New frontier for medical cannabis -- topical pot

Anti-inflammatory traits helped heal skin of mice in study

Kavita Mishra, Chronicle Staff Writer
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Skin allergies may be the next reason to use marijuana -- a topical form, at least.

Scientists have long suspected that marijuana, used for recreational purposes and to help fight chronic pain, nausea and even some mental disorders like anxiety and depression, also had anti-inflammatory effects in the body.

Now they think they know why.

In a study published in the current issue of the journal *Science*, researchers show exactly how they think that works, elucidating how the body's own cannabinoids, compounds that are similar to the ones found in marijuana, reduce inflammation.

Mice had a harder time healing from wounds caused by ear tags used to identify them when researchers blocked their internal cannabinoids, said Dr. Meliha Karsak, lead author and scientist in molecular neurobiology at the University of Bonn in Germany. Cannabinoids are involved in many of the body's daily functions, scientists believe, but they're still trying to figure out how.

Mice also healed faster from skin allergies with topical THC, the main psychoactive ingredient in marijuana and other plants, she said.

Dr. Frank Lucido, a Berkeley physician who was not involved in the study but regularly recommends medical marijuana, said the plant's anti-inflammatory effects didn't surprise him. He has had patients who say their psoriasis, an immune disease that affects the skin and joints, and asthma get better when they smoke marijuana.

In the 1980s, scientists discovered receptors in the body that respond to active compounds in cannabis, Karsak said. Once activated with THC and other chemicals from marijuana, the receptors had effects downstream, for instance changing a person's mood and perception. Since then, two main receptors have been studied: One is more prevalent in the central nervous system, the other in the periphery.

The one in the periphery seems to respond to cannabinoids in inflammation and is found in cells of the immune system, said Dr. Donald Abrams, a San Francisco General Hospital physician who has studied the effects of marijuana use in HIV patients.

"Most people have believed for some time that the cannabinoid system is involved in modulating the immune system," he said.

But experts say they're uncertain how such a controversial chemical could reach the hands of patients with skin allergies. Scientists would have to develop a product that had more effect on the cannabinoid receptors in the periphery than in the brain and spinal cord, where the psychotropic effects would be more common, said Dr. Ben Cravatt, a researcher in the study and a professor in cell biology at the Scripps Research Institute in La Jolla.

Karsak, however, said the experiments on mice showed that the dose of THC in a topical cream for humans would be small enough to avoid psychotropic effects. She also doubted that people could extract enough THC from the cream for use as a recreational drug.

Contact with substances like poison oak can easily cause a blistering, allergic skin reaction, said Dr. Stephen Katz, a dermatologist and head of the National Institute of Arthritis and Musculoskeletal and Skin Diseases. Topical steroids and other medications work well against dermatitis, he said, adding that he didn't think enough was known about cannabinoids and skin reactions to create a medication from cannabinoids.

Dr. Mark Dahl, chairman of dermatology at the Mayo Clinic College of Medicine in Arizona, cautioned patients against using marijuana for their skin allergies. "I doubt that if they had a rash, rubbing their marijuana plant would make much difference," he said.

California is the only state to allow physicians to recommend marijuana for any medical purpose, unlike other states that dictate its use in specific ailments, Lucido said.

Seventy-five percent of the patients Lucido treats with marijuana complain of chronic pain. The rest have post-traumatic stress disorder, depression, anxiety, headaches or muscle spasms, like in patients with multiple sclerosis.

He said he hoped the study would convince politicians to invest in more research about cannabinoids and help get more states to pass medical marijuana laws.

E-mail Kavita Mishra at kmishra@sfnchronicle.com.

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