

Researcher explores effects of cannabinoids on blood pressure

June 08, 2016 11:30 AM

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Andrei Derbenev, associate professor of physiology, is investigating the role of the brain in hypertension and the possible mitigating effects of cannabis for hypertension treatment. He is on the research advisory board of the newly formed Brain Institute at Tulane. (Photo by Cheryl Gerber)

Hypertension — or high blood pressure — is a long-term, high-risk condition for millions of people worldwide.

At the moment, synthetic beta-blockers are one of the most common drugs prescribed to treat hypertension.

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Andrei Derbenev, associate professor of physiology, School of Medicine

But what if a natural drug, marijuana, which has been known for 5,000 years, could be used in the treatment of high blood pressure?

Andrei [Derbenev](#), associate professor of physiology in the Tulane University School of [Medicine](#), recently received a four-year, \$1.5 million research grant from the National Institutes of Health to study how cannabinoids — the compounds of cannabis (another name for marijuana) — affect a brain stem area involved in blood pressure control.

His research may have important clinical applications for the treatment of hypertension.

He is identifying the cells in the sympathetic nervous system linked to the kidneys, a key organ in hypertension. (The sympathetic nervous system is the part of the autonomic nervous system that stimulates the body's "fight or flight" response. Overactivity of the sympathetic nervous system is a cause of high blood pressure.)

He and his research team are studying the effect of exogenous cannabinoids — from the marijuana plant — and endogenous cannabinoids — those naturally produced within the body.

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People ask Derbenev all the time: Is marijuana good? Is it bad? But the debate, he says, should be, instead, "Which works? Which does not work?"

About a decade ago, Derbenev led a study about the effect of cannabinoids on the parasympathetic nervous system, the part of the autonomic nervous system that stimulates the body to "rest and digest." In that investigation, his team showed the mechanism by which cannabis can reduce digestive spasms and thus decrease vomiting. It's a finding of great interest to cancer patients experiencing nausea while undergoing chemotherapy.