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Cannabis and the blood

DOI: 10.1038/mp.2008.50

Far from just mental, the harmful effects of marijuana can be physical, and begin immediately after inhalation according to research in Molecular Psychiatry this week. Direct stimulation of cannabinoid receptors in the liver, triggers mechanisms that are harmful to blood chemistry, and long term use may lead to problems such as heart attack, psychosis and supine hypertension.

Marijuana is the most commonly used illicit drug in the United States and 4.3% of young adults are reported to smoke it on a daily basis, but increasingly the idea that it is a ‘safe’ drug is in doubt. Jean Lud Cadet and colleagues show marijuana use leads to an increase in apolipoprotein (apo) C-III concentration in the blood as soon as the inhaled chemicals reach the liver. Usually a harmless protein, ApoC-III regulates the breakdown of certain fatty acids but delta-9 tetrahydrocannabinol (THC), the active ingredient of marijuana, chronically over-stimulates cannabinoid receptors in the liver, which leads to over production...
of apoC-III and a reduction in the breakdown these fats. Too many in the blood cause short-
term effects such as cardiac disorders and decreased blood flow to the cerebral vasculature.

Until recently, the long-term effects of marijuana were only thought to be metabolic
and psychological. This paper shows that stimulation of cannabinoid receptors by THC can
spark mechanisms that affect blood chemistry as well.

CONTACT
Jean Lud Cadet (National Institute on Drug Abuse, Baltimore, MD, USA)
Tel: +1 443 740 2656; E-mail: jcadet@intra.nida.nih.gov

Media contacts:
Ruth Francis (Head of Press, Nature London)
Tel: +44 20 7843 4562; E-mail: r.francis@nature.com

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