Ibogaine: A Plant Alkaloid Proposed for the Interruption of Addiction

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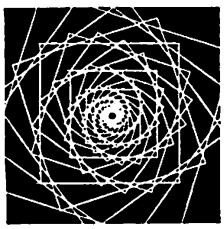
IBOGAINE, a preparation from the roots of the African shrub *Tabernanthe iboga,* has been proposed as a medicine useful in interrupting addictive behaviors including those related to heroin, cocaine and even nicotine.

Ibogaine may interact with serotonergic receptors in a similar fashion to indolalkylamines such as psilocybin. It may even be metabolized to a hydroxylated dimethyltryptamine compound resembling bufotonin, but this is uncertain. Rare recreational users in the United States have previously described a psychedelic effect with visual perceptual alterations reportedly often associated with anxiety. The small amount of use in the United States coupled with a satiric report of Hunter Thompson in *Rolling Stone* describing Democratic (presidential) candidate Edwin Muskie as a likely addict, was enough for the DEA to place it in Schedule 1 of the Controlled Substances Act.

Ibogaine's use in rituals in Africa related to the Bouiti cult have generated interesting descriptions by pharmacoethnographers. It is employed in both young men and women to navigate rites of passage to adult life. Participants in such rituals often describe an evocation of the spirits of the dead and of their own previous past lives. This is particularly intriguing because many of the 60-70 addicts who have undergone dosing with a purified form of ibogaine have described personal historical visions and thoughts which they deem critical to the treatment process.



Howard Lotsof, who holds some use patents for administering ibogaine to addicts, and his colleague B. Sisko of the International Coalition for Addict Self-Help (ICASH) have publicized and worked hard to convince critics that a single dose of ibogaine hydrochloride will interrupt addictive behaviors for six months or longer. ICASH has arranged application of the ibogaine procedure, chiefly in Europe, for 60-70 addicts. They believe and produce testimonials to that belief that a single dose of 1000-1200 mg of ibogaine HCL will both attenuate withdrawal symptoms and help the user to cease "self-medication with euphoriant drugs." The use of the drug has generally been conducted in outpatient settings and is designed to include pre-drug interviews and evaluation preceding the single dose. In some subjects smaller test doses have preceded the 1200 mg oral dose. The active treatment period which includes counseling and interaction with the subject may consume 2-3 days.

The proponents of the procedure have not been able to collect much in the way of follow-up data and even the descriptions of the procedure and the immediate aftermath are sparse. A hard scientific view would indicate that in fact,

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no adequate data reflect these human experiments. The committed proselytizing of Lotsof and Sisko has attracted significant attention. However, recent animal experimentation has attracted more mainstream interest.

Drs. E.D. and M.R. Dzoljic of the Netherlands, in 1988 published evidence that ibogaine significantly attenuated a naloxone-precipitated withdrawal syndrome in rats made morphine dependent.

Dr. Stanley Glick of the Albany Medical College has conducted two supporting studies with his colleagues. The use of ibogaine diminished self-administration of morphine in rats conditioned to inject the opioid. Additional work has indicated that ibogaine treatment in rats attenuated the usual morphine-induced increase in dopamine excretion in the brain dopaminergic systems associated with reward.

Dr. Patricia Broderick of the CUNY Medical School, using a different neural technique than Glick, demonstrated that ibogaine altered similarly-expected dopamine increases secondary to cocaine administration in rats. Broderick also noted a decreased motor response to cocaine in these experiments performed in freely-moving rats.

Despite these studies little is known of the basic pharmacology and toxicology of the drug. In fact, the stability and proper dosage formats of the drug in humans are not known. However, in a late October meeting, officials of the National Institute on Drug Abuse (NIDA) Medications Development Division (MDD) indicated their plans to begin a committed research program with the agent. They have ordered 700 grams of ibogaine from a medicinal supplier currently awaiting the January iboga harvest in Africa. They shall use this material to conduct a variety of animal and molecular studies to assess brain-site binding, neurotoxicity, basic metabolism and behavioral studies in animals. If these studies do not yield significant animal toxicity, NIDA's MDD will assess stability testing and dosage formats and begin some human testing combining phase 1 and phase 2 studies as early as one year from October, 1991.

The MDD of NIDA is currently overseeing other pharmacotherapies for addiction including desipramine, buprenorphine and the long-acting (and long-awaited) methadone congener L-acetyl-alpha-methadol (LAAM). They are concerned that ibogaine may induce psychedelic pleasurable effects. The political perspective of NIDA is still committedly on the side of a war-like approach and therapies to this institution mean something to stop individuals from taking (or enjoying) drugs. The unusual steps regarding ibogaine may be seen to reflect some enlightenment or they may be viewed as cynical. The animal studies might indeed show some "useful" toxicity and kill the drug, moving NIDA in its usual direction while quieting the political movement that brought ibogaine to the door. (The AIDS Coalition to Unleash Power [ACT-UP] also participated in the NIDA meeting as activist supporters of ibogaine.) However, the scientists from NIDA have blocked out a seemingly proper course of action.

Observers of addictive behavior have always found the ibogaine story hard to accept. How could a behavior so complex be altered by a single application of a drug whose effects are scarcely described and whose function is completely unknown? Certainly these thoughts occurred to me and they have not left me. However, Lotsof and his colleagues have approached this problem appropriately and ICASH may be the only organization of former addicts in the US trying to help addicts. I can now balance my skepticism with some appropriate optimism and look forward to the NIDA studies. ■

(Ed Note: Howard Lotsof is trying to develop ibogaine through the use of a for-profit corporation, the opposite approach of MAPS to MDMA. For more information, contact Howard Lotsof, NDA International, 46 Oxford Place, Statten Island, NY, 10301 (718) 442-2754.)

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