Cocaine abuse leaves lingering heart risk

For several weeks after giving up cocaine, habitual users experience frequent episodes of reduced blood flow to the heart, new research shows. These temporary and often painless attacks, called myocardial ischemia, may indicate that a cocaine abuser's well-known risk of suffering a sudden, fatal heart attack extends into the first weeks of withdrawal.

A team led by Koonlawee Nademanee and David A. Gorelick at the West Los Angeles Veterans Administration Medical Center in Los Angeles studied 21 male cocaine abusers admitted to a 28-day inpatient drug treatment program. Most of the men reported smoking 1.8 grams of freebase cocaine (a potent form of the drug) every day for two years, but researchers performed frequent urine tests during the study to make sure they remained cocaine-free. For a 24-hour period during the first two weeks of withdrawal and again four weeks later, volunteers wore a device that detects ischemic episodes by recording the heart's electrical activity.

In the first two weeks, eight of the 21 ex-cocaine users experienced frequent episodes of ST elevation, an electrical abnormality indicating ischemia. None of the 42 healthy controls studied showed this abnormality, the scientists report in the Dec. 1 ANNALS OF INTERNAL MEDICINE.

In most cases, the ischemia seen among ex-users cannot be attributed to underlying coronary artery disease, says Gorelick, now working in Baltimore with the Addiction Research Center of the National Institute on Drug Abuse. At the study's beginning and end, the team monitored 20 of the ex-users as they exercised on a treadmill, finding only one whose results suggested arteries clogged with fatty plaques.

The researchers postulate that chronic cocaine use depletes the heart's nerve cells of dopamine, a neurotransmitter that normally signals coronary arteries to dilate. Dopamine deprivation may make coronary arteries prone to spasm, which can cause ischemic attacks and which may persist for several weeks during withdrawal, Gorelick says. Ex-users in the study who stayed off cocaine for six weeks showed no evidence of ischemia, suggesting the attacks subside with time.

Scientists worry that ischemic attacks may damage the ex-users' heart muscles, increasing their risk of heart attack in the long run as well as during withdrawal. But before cardiologists can recommend that ex-users take medication to prevent ischemia, further studies must confirm the elevated heart risk, says Richard A. Lange of the University of Texas Southwestern Medical Center at Dallas.

— K.A. Fackelmann

Smoking out the best way to quit smoking

Surveys show millions of people in the United States have quit smoking cigarettes, the vast majority of them without the help of a formal cessation program. Some studies indicate that smokers who quit on their own are two to three times more successful at kicking the nicotine habit than those who use various "stop smoking" manuals.

But that conclusion is challenged by a report in the November AMERICAN PSYCHOLOGIST, which presents data compiled from 10 long-term studies of smokers attempting to quit either on their own or with the help of instructive manuals. A total of 5,389 people participated in the studies.

Approximately 4 percent of both groups of smokers abstained from smoking for either six months or one year after their initial attempt to give up cigarettes, note psychologist Sheldon Cohen of Carnegie Mellon University in Pittsburgh and his colleagues. Researchers checked abstinence at varying intervals in the studies by examining biochemical indicators of recent smoking, such as saliva levels of cotinine, a nicotine metabolite.

Abstinence rates among self-quitters and those using manuals were largely the same, the researchers found. "Hard-core" smokers were not more likely to have chosen the formal programs.

Previous studies have gone astray in assessing only the success of single attempts to quit smoking rather than charting the outcome of multiple attempts over a prolonged period, the investigators say.

Cohen and his co-workers also found that smokers who consume less than one pack of cigarettes a day were significantly more likely to quit smoking for a full year than were heavier smokers.

There is a significant relapse rate among people who give up cigarettes on a long-term basis, however. In the four studies with relapse data, 7 to 35 percent of those who did not smoke for six months returned to regular smoking within the following six months.

Quitting smoking by oneself or with the aid of a program often requires a series of attempts to achieve success, particularly because cigarette use is a central part of many persons' daily lives, the scientists maintain.

In a related study of people who smoke one pack a day or more, Peter Franks of the University of Rochester (N.Y.) School of Medicine and Dentistry and his colleagues found that the antihypertensive drug clonidine does not ease withdrawal symptoms or promote quitting over a one-month treatment period. Clonidine suppresses alcohol and opiate withdrawal symptoms, and some have suggested it reduces cigarette cravings (SN: 11/17/84, p.310).

Among the 155 smokers who completed four weeks of either clonidine or placebo treatment, about one in five persons in both groups abstained throughout the study, the researchers report in the Dec. 1 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. They caution that clonidine frequently causes side effects, including dizziness and nausea.

— B. Bower

Liver-transplant surgeons use living donor

A Chicago surgical team last week removed a left lobe of liver from 29-year-old Teresa Smith and transplanted the healthy tissue into her 21-month-old daughter Alyssa, who suffers from biliary atresia, an often fatal defect in the ducts carrying bile away from the liver. This is the first time U.S. surgeons have used a living donor for a liver transplant.

Pointing to studies showing that a partial liver will soon regrow lost tissue and begin functioning normally, the surgeons say the tissue donation should not pose significant long-term risk for Teresa Smith. At press time, both mother and daughter remained in stable condition.

Doctors plan to watch baby Alyssa for the first signs of tissue rejection. Using liver tissue donated by a genetic relative significantly lowers the risk of rejection, but Alyssa is receiving immunosuppressive drugs to further reduce that risk.

The transplant team faced an unforeseen complication when they accidentally damaged the mother's spleen during the operation and had to remove it to prevent profuse bleeding. The surgeons say they do not expect the loss of the spleen to have a significant impact on Teresa Smith's health, although it may increase her risk of infection.

Alyssa's transplant follows four live-donor liver transplants performed since November 1988 in Brazil, Australia and Japan. The use of living donors should improve the outlook for infants with fatal liver disease, says transplant team leader Christoph E. Broelsch of the University of Chicago. Surgeons can plan for such an operation rather than performing emergency surgery after a death makes a suitable organ available. In addition, doctors say the procedure could ease the shortage of cadaver livers. In the United States today, about half the infants awaiting liver transplants die before their physicians locate a suitable organ.

— K.A. Fackelmann