
Coffee and the job: Heartfelt insults?

Drinking coffee and working at a blue-collar job could be two strikes against someone fighting the leading cause of death in the United States. According to epidemiologic studies reported at last week's American Heart Association annual meeting in Washington, D.C., either of these life-style factors could contribute to heart disease.

Drinking five or more cups of coffee a day increases the risk of having heart problems 2.8 times, report researchers from Johns Hopkins Medical Institutions in Baltimore. After correcting for other factors—such as age, smoking habits and hypertension—they found heavy coffee drinkers still have 2.5 times the incidence of coronary heart disease compared with nondrinkers. Members of the research team say that, based on the findings, they now limit their own daily coffee intake to two cups, a decision labeled as premature by several physicians attending the meeting.

The controversy over coffee and heart disease is not new. Studies have linked coffee consumption to elevated blood cholesterol levels (SN: 6/25/83, p. 406) and heart arrhythmias (SN: 4/16/83, p. 249). The Nov. 15 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (JAMA) contains letters from physicians critical of research tying coffee intake to increased serum lipids, as reported in the March 8 JAMA (SN: 3/16/85, p. 173). Critics note that most studies have found no association between coffee and heart disease.

By using more subjects and a longer study period, the Johns Hopkins group says it avoided some of the flaws that critics found in earlier work. Data were collected at five-year intervals for up to 25 years on 1,130 male physicians, starting at their graduation from medical school between 1948 and 1964. The study also included annual surveillance for incidents of coronary heart disease.

According to co-researcher Andrea LaCroix, besides the increased incidence of heart disease in heavy coffee drinkers, other observations are worth noting. Those who drank a moderate amount (from two to four cups a day) had a twofold risk of heart disease. And the association between smoking and drinking coffee seen by others was supported by statistics LaCroix says indicate non-smokers "consistently showed lower coffee consumption throughout the 25-year study period."

Still, the Baltimore study did not collect information on the proportion of decaffeinated coffee ingested, or whether consumption was related to stress, considered by many to be another heart disease factor. Until more surveys are completed, LaCroix warns, results "should be interpreted cautiously."

Perhaps more unexpected than the

coffee/heart disease results are those suggesting a blue-collar worker is 43 percent more likely to die of heart disease than the stereotypically sedentary white-collar worker. Because figures show that heart disease is more common in industrialized nations, researchers at Harvard Medical School in Boston looked at cardiac death in occupations with different physical demands. They used 568 case-control pairs in Florida found by collecting death certificates of married men who had died between the age of 30 and 70, and then selecting age-matched controls living within two blocks of the deceased. Using interviews with widows and wives about occupation and heart disease risk factors, the researchers were surprised at the results, says Harvard's Charles Hennekens. "The

most plausible interpretation is an inverse relationship between white-collar occupations and mortality from coronary heart disease," he says.

Allowing that it would be "very premature to ascribe risks of coronary heart disease to occupation and the work place," Hennekens says epidemiologists need to determine whether something in the work place is contributing to the disease, or whether occupation is indicative of other known risk factors like diet.

The Harvard study agrees with another reported at this week's American Public Health Association meeting in Washington, D.C. Using Framingham (Mass.) Heart Study data from 2,292 men followed for 30 years, researchers at Boston University found men with very physical jobs had a 13.7 per 1,000 death rate from heart disease and cancer—compared with sedentary men, who had an 8.5 per 1,000 rate. — D. D. Edwards

Lasers powering through coronary arteries

Researchers from the Texas Heart Institute in Houston last week announced the first successful use in the United States of lasers to clean out plaque deposits in clogged coronary arteries.

At the American Heart Association (AHA) meeting in Washington, D.C., James J. Livesay described the laser use on 16 arterial vessels in eight patients since January. Using a different type of laser and a different mode of access, Daniel S.J. Choy of St. Luke's-Roosevelt Hospital in New York City did the procedure on eight patients in France in 1983 and 1984.

The two projects are apparently the sole possessors of U.S. Food and Drug Administration approval for evaluating the ability of lasers to clean clogged coronary arteries, and they mark the first laser forays into the living human heart.

The Texas procedures were done in conjunction with coronary artery bypass surgery. The arteries were sliced open so that a blood vessel from elsewhere in the body could be hooked up; while the arteries were open, a carbon dioxide laser was used to clear out clogged areas upstream from the planned connection.

The Houston surgeons have used the procedure, called laser coronary endarterectomy, without perforating or charring any of the arterial walls. They have completely opened 12 of the 16 vessels, Livesay says.

The laser "can remove plaque and relieve arterial stenosis [narrowing] without damage to human coronary arteries," he says.

Jeffrey M. Isner of Tufts-New England Medical Center, who cochaired the AHA session, says, "This is the most encouraging evidence yet" that lasers can vaporize plaques without harming vessel walls.

Choy's technique was also done on

patients about to have bypass surgery, but he used an argon laser. The laser energy was transmitted by optical fibers threaded up to the narrowed or blocked artery. The advantage, Choy says, is that the fibers can be threaded to the blockage without the need for cutting into the artery. Ultimately he plans to do the procedure by catheter without opening the chest.

Though the longest any of his patients' arteries remained open was 25 days, Choy considers the procedures successful in establishing safety. He suspects the closures occurred because the arteries were not only lased but also bypassed. The reduced level of flow as some of the blood took the new alternate route could have allowed new atherosclerotic buildup, he told SCIENCE NEWS.

Choy plans to use the laser procedure as soon as he finds someone with the right anatomy—a patient with occluded (blocked) arteries too small to bypass or whose condition wouldn't be threatened by reocclusion.

Also at the AHA meeting, Timothy A. Sanborn of Boston University and his colleagues from BU and England described successful use of a metal-tipped laser in arteries in the legs of five patients. The arteries were totally occluded; after using the laser to create a channel through the plaque buildup, the researchers inserted a balloon and inflated it to push out the walls of the vessel.

Kenneth I. Shine of the University of California at Los Angeles, president-elect of the AHA, cautions, "While it's true that in some studies laser therapy may melt the plaque, there's still a concern about whether you'll get vascular [vessel] injury. I don't think we yet know the overall risks versus benefits." — J. Silberner