

Arteries Are Unblocked Without Drugs in Study

By SANDRA BLAKESLEE

People with blocked coronary arteries who adhere to a strict vegetarian diet, engage in mild daily exercise and practice stress-reduction techniques can reverse the blockage, according to a study being published today.

Those who make the greatest changes show the biggest improvement, researchers said in a report in *The Lancet*, a British medical journal. The study also found that changes in diet and exercise alone were not enough to reverse heart disease and that stress reduction was a more important factor than had been generally thought.

The study's preliminary findings were reported last November at a meeting of the American Heart Association in New Orleans. But this is the first report of the research to be published in a medical journal.

The study, the Lifestyle Heart Trial, was conducted by Dr. Dean Ornish of the Preventive Medicine Research Institute in Sausalito, Calif., and colleagues at the University of California at San Francisco and the University of Texas Medical School in Houston.

The study "offers strong scientific evidence that life-style changes alone can actually reverse the progression of atherosclerotic plaques in coronary arteries," said Dr. Claude Lenfant, director of the National Heart, Lung and Blood Institute in Bethesda, Md. "These changes can begin to reverse even severe coronary artery disease after only one year, without the use of cholesterol-lowering drugs."

Life-Style Changes Questioned

But other heart disease experts caution that the changes in habit advocated by Dr. Ornish are difficult to sustain. "He is incredibly convincing in keeping people in his program," said Dr. Peter Wilson, laboratory director of the Framingham Heart Study in Massachusetts, but he said it remained to be seen if other people could make such changes on their own.

"It may be more realistic to have people inch their way down the fat scale rather than take drastic cuts and get discouraged," Dr. Wilson said.

Increasing evidence implicates diet, exercise, stress and smoking as factors in coronary artery disease, Dr. Ornish said in a telephone interview. But the relative contribution of each to the disease is not well understood.

The study randomly selected 41 patients 35 to 75 years old from two San Francisco hospitals. Although the patients had widely different socioeconomic and ethnic backgrounds, Dr. Ornish said, all entered the study with severe heart disease. Blocked arteries were measured and assessed by a technique that involves injecting dye into the heart. An X-ray provides a picture of which arteries are blocked.

Four-Year Study Planned

Twenty-two patients were assigned to an experimental group that changed habits of eating, exercising and coping with stress. Nineteen other patients were assigned to a control group in which followed their regular doctors' orders. Both groups are being followed for four years, but the current report is based on the first year's progress.

Those in the experimental group ate

no animal products, with the exception of egg whites and up to a cup of nonfat milk or yogurt a day. The diet had no more than 10 percent fat, consisting of vegetables, fruits, legumes and grains, and it was made more palatable with the help of several well-known chefs, including Wolfgang Puck, who designed dishes for the group.

For exercise, the patients walked for half an hour a day. No more than this was needed, Dr. Ornish said.

Meeting to Reduce Stress

To reduce stress, the group met twice a week for four hours to walk together, talk, eat, meditate and practice stretching and breathing exercises, Dr. Ornish said. The only smoker in the group quit her habit, he said.

Those in the control group made more moderate changes in diet and habits, Dr. Ornish said. Most went on a 30 percent fat diet as recommended by the American Heart Association. Most exercised, he said, but did not practice stress-reduction techniques.

A year later, researchers took new images of the patients' blood vessels.

In the experimental group, 18 of the 22 patients showed significant unblocking of the arteries, Dr. Ornish said. Three showed slight unblocking and one patient, with poor compliance with the regimen, showed progression of

Changes in diet, exercise and stress help in heart disease.

disease. The patients reported a 91 percent reduction in the frequency of chest pains, a 42 percent reduction in their duration and a 28 percent reduction in severity.

Chest Pains Increase

Among the control group, said Dr. Ornish, 10 of the 19 patients showed progression of blocked arteries. The others, mostly women or men who exercised more often and consumed fewer calories, showed some unblocking of arteries. Nevertheless the group as a whole reported a 165 percent rise in the frequency of chest pains, a 95 percent rise in their duration and a 39 percent rise in their severity.

Dr. Ornish said he was surprised to find no firm correlation between lowered cholesterol and the unblocking of arteries. "I assumed we would need to get blood cholesterol below 150 or 180 to see regression," he said, referring to milligrams of cholesterol per deciliter of blood. But one man whose cholesterol fell from 360 to 260 showed major unblocking of arteries.

"While reducing blood cholesterol is very important, it's not the whole story," Dr. Ornish said. Emotional stress is a critical element in coronary artery disease. "We know stress can cause arteries to constrict, the blood to clot faster and the blockages in the arteries to form more readily," he said.