Japanese Researchers Spot Earliest Signs of Heart Disease

Excellent news but this prolongs life inhigh risk individuals … the application iof low level radiation doses to the general public would improve the overall health of all.

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Japanese researchers have discovered a way to diagnose atherosclerosis -- hardening of the arteries -- even before symptoms arise.

Screenings using a combination of PET scans, an isotope called 15O-water, and "cold pressor testing" showed early signs of atherosclerosis.

Researchers measured the blood flow through the heart of 27 hypertensive patients during periods of rest and stimulation induced by a cold pressor test, in which the patients' feet were placed in icy water for four minutes at a time. The researchers measured the patients' blood pressure activity via PET with 15O-water.

One of the most beneficial aspects of this test is the early diagnosis of coronary endothelial (blood vessel) dysfunction -- the main symptom of atherosclerosis that involves the hardening of the blood vessels to the point where they cannot accommodate increased blood flow.

"We can select high-risk patients with endothelial dysfunction using blood sample analysis at an early stage of atherosclerosis, then start medical treatment or lifestyle modification," Dr. Masanao Naya, of the Hokkaido University Graduate School of Medicine in Sapporo, said in a prepared statement.

The ability to diagnosis atherosclerosis very early in progressive heart disease will allow patients to make lifestyle changes that can prevent an eventual heart attack, Naya said. Pharmaceutical treatments may also be initiated early to prevent further complications of atherosclerosis.

This is "quite revolutionary research," Josef Machac, cardiovascular vice chairman of the Society of Nuclear Medicine's Scientific Program Committee, said in a prepared statement. "By measuring the response of coronary blood flow to stress, these researchers were able to detect atherosclerosis before it became evident clinically," he said.

The findings were released at the Society of Nuclear Medicine's annual meeting, in San Diego.