Mummy study shows clogged arteries are nothing new

By Maggie Fox, Senior Writer, NBC News

From the Andes to Alaska and ancient Egypt, people suffered from hardening of the arteries even 4,000 years ago, researchers reported on Sunday, suggesting heart disease may not be the fault of modern living, after all.

The team looked at mummies preserved in the cold or dry heat and found fully a third had clear evidence of clogged arteries. The findings, presented at a meeting of the American College of Cardiology and also published in the Lancet medical journal, build on earlier studies that looked at ancient Egyptian mummies.

Signs of artery disease in Egyptian mummies was believed to support the idea that a life of leisure, with plenty of rich food, is the main cause of heart disease. This broader study, however, found signs of heart disease in the remains of people who would have been far from wealthy or idle.

“The fact that we found similar levels of atherosclerosis in all of the different cultures we studied, all of whom had very different lifestyles and diets, suggests that atherosclerosis may have been far more common in the ancient world than previously thought,” says cardiologist Randall Thompson of Saint Luke’s Mid America Heart Institute in Kansas City, who led the study.

“A common assumption is that the rise in levels of atherosclerosis is predominantly lifestyle-related, and that if modern humans could emulate pre-industrial or even pre-agricultural lifestyles, that atherosclerosis, or at least its clinical manifestations, would be avoided,” Thompson added.

This mummy shows signs of heart disease, researchers, found.

“Our findings seem to cast doubt on that assumption, and at the very least, we think they suggest that our understanding of the causes of
atherosclerosis is incomplete, and that it might be somehow inherent to the process of human aging.”

Thompson’s team looked at 137 different mummies, using MRI scans to find the signs of calcification that mark artery disease. Calcium builds up in the “plaques” that clog arteries, making them hard and also making it easy to spot them on scans.

The mummies came from Peru, where bodies often mummified naturally when left in cold, dry caves high in the mountains; from the southwestern U.S, where dry air can mummify bodies; from the Aleutian Islands of Alaska, where the cold can mummify remains; and from Egypt.

Randall Thompson of Saint Luke’s Mid America Heart Institute in Kansas City and colleagues found clear signs of heart disease in a third of 137 mummies they studied from around the world.

About 38 percent of the mummies from Egypt had signs of atherosclerosis. A quarter of the mummies from Peru did, 40 percent of ancestors of Pueblo Indians from the U.S. Southwest and three out of the five Unangans from the Aleutian Islands.

“None of the cultures were known to be vegetarian. Physical activity was probably prominent in all these of civilizations without animal or vehicle transport,” the researchers wrote.

But they would have eaten very different diets. “Indigenous food plants varied greatly over the wide geographical distance between these regions of the world. Fish and game were present in all of the cultures, but protein sources varied from domesticated cattle among the Egyptians to an almost entirely marine diet among the Unangans,” the researchers wrote.

The Aleutian Islanders would have led a hard life, venturing out on kayaks to hunt seal and to fish, and they lived in underground homes to escape the extreme cold weather. Andean peoples would have been fit, and also unlikely to have lived easy lives.

What did they have in common? Probably a lot of untreated infections, the researchers said.

“All four populations lived at a time when infections would have been a common aspect of daily life and the major cause of death. Antibiotics had yet to be developed and the environment was non-hygienic.”

Doctors know that infection can be linked to heart and artery disease. One marker of heart disease is inflammation, as measured by a compound
called C-reactive protein. Could infection have somehow kept arteries inflamed and prone to clogging?

“This would be consistent with the accelerated atherosclerosis experienced by modern-day patients with rheumatoid arthritis and systemic lupus erythematosus (commonly known as lupus),” the researchers wrote.

A study published in the new England Journal of Medicine in 2003 found about 37 percent of patients with lupus had atherosclerosis.

Heart disease is the No. 1 killer of Americans, causing about a quarter of all deaths. And half of these are linked to cardiovascular disease, much of it so-called hardening of the arteries, according to the Centers for Disease Control and Prevention.

It’s hard to say how common atherosclerosis is in the population as compared to the mummies, because few Americans get full-body scans that would show it, but a study last year of Afghanistan and Iraq veterans who died or were killed showed 8.5 percent had atherosclerosis in or around the heart, compared to 77 percent of Korean war veterans and 45 percent of Vietnam War veterans. Doctors believe widely used medications to lower cholesterol may have been a factor in the different rates.