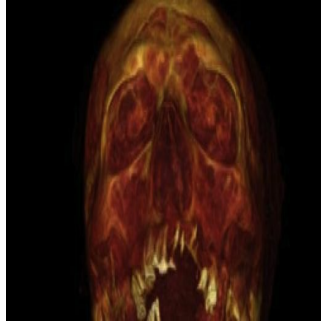


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## CT Scans of Mummies Show Clogged Arteries



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Research published in *The Lancet* shows that our ancestors also suffered from clogged arteries. The researchers performed CT scans of 137 mummies from four continents and found artery plaque in every single population studied, from preagricultural hunter-gatherers in the Aleutian Islands to the ancient Puebloans of southwestern United States.

Their findings suggest that the prevalence of the disease across human history shows it may have a more basic connection to inflammation and ageing.

"This is not a disease only of modern circumstance but a basic feature of human ageing in all populations," said Caleb Finch, USC University Professor, ARCO/ Kieschnick Professor of Gerontology at the USC Davis School of Gerontology, and a senior author of the study. "Turns out even a Bronze Age guy from 5,000 years ago had calcified, carotid arteries," Finch said, referring to Otzi the Iceman, a natural mummy who lived around 3200 BCE and was discovered frozen in a glacier in the Italian Alps in 1991.

With Gregory Thomas of Long Beach Memorial, Finch was part of a team that previously showed Egyptian mummies had calcified patches on their arteries indicative of advanced atherosclerosis (from the Greek *athero*, meaning "gruel" and *scler*, meaning "hard").

But ancient Egyptians tended to mummify only royalty or those who had privileged lives. The new study led by Thomas and Randall Thompson of Saint Luke's Mid America Heart Institute examined mummies from four drastically different climates and diets -- and from cultures that mummified regular people, including ancient Peruvians, Ancestral Puebloans, the Unangans of the Aleutian Islands and ancient Egyptians.

"Our research shows that we are all at risk for atherosclerosis, the disease that causes heart attacks and strokes -- all races, diets and lifestyles," said Thomas, medical director of the MemorialCare Heart & Vascular Institute, Long Beach Memorial. "Because of this we all need to be cautious of our diet, weight and exercise to minimise its impact. The data gathered about individuals from the pre-historic cultures of ancient Peru and the Native Americans living along the Colorado River and the Unangan of the Aleutian Islands is forcing us to think outside the box and look for other factors that may cause heart disease."

Overall, the researchers found probable or definite atherosclerosis in 34 percent of the mummies studied, with calcification of arteries more pronounced in the mummies that were older at time of death. Atherosclerosis was equally common in mummies identified as male or female.

"We found that heart disease is a serial killer that has been stalking mankind for thousands of years," Thompson said. "In the last century, atherosclerotic vascular disease has replaced infectious disease as the leading cause of death across the developed world. 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. 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."

The international team of researchers will next seek to biopsy ancient mummies to get a better understanding of the role chronic infection, inflammation and genetics in promoting the prevalence of atherosclerosis.

### Reference:

Atherosclerosis across 4000 years of human history: the Horus study of four ancient populations. Thompson RC, Allam AH, Lombardi GP et al. *Lancet*. 2013 Apr 6;381(9873):1211-22. doi: 10.1016/S0140-6736(13)60598-X. Epub 2013 Mar 12.

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