

Letter to the Editor: The Pundit Speaks

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“Aging Partially Reversed Using Hyperbaric Oxygen”

In a first, scientists say they have partially reversed a cellular aging process in humans. Every time a cell inside your body replicates there is shortening of telomeres, structures that 'cap' the tips of our chromosomes. Now, scientists in Israel say they have been able to reverse this process and extend the length of telomeres in a small study involving 26 patients. In this study, the researchers were able to show that the genetic changes provoked by hyperbaric oxygen therapy (HBOT) has extended telomeres, and also had a potentially positive effect on the health of the tissues themselves. It is an impressive claim - and something many other researchers have attempted in the past without success. But of course, it is worth noting that this is a small sample size, and the results will need to be replicated before we can get too excited. Researcher Shair Efrati, a physician from the Faculty of Medicine and Sagol School of Neuroscience at Tel Aviv University, said, “After the twin experiment done by NASA, where one of the twins was sent out to the outer space and the other stayed on Earth, demonstrated a significant difference in their telomere length we have realized that changes in the outside environment may affect the core cellular changes that happens along ageing.” There have been plenty of milestones in attempts to achieve this task. Gene therapy in mice has shown it could one day be feasible in humans. More recently, stem cells from a supercentenarian woman had their telomeres completely reset outside of her body. Some studies have found potential for tiny increases of maybe a few percent with provision of nutritional supplements such as vitamin D. It is not possible to completely reverse aging. However, you can slow it down and help prevent age-related diseases by living a healthy lifestyle as you get older and using treatments that help slow the physical signs of aging. Hyperbaric oxygen is able to effectively oxidize and remove harmful toxins, heavy metals, bacteria, and viruses. The Tel Aviv University study showed that hyperbaric oxygen treatments (HBOT) in healthy aging adults can stop the aging of blood cells and reverse the aging process. In the biological sense, the adults' blood cells actually grow younger as the treatments progress. Until now, interventions such as lifestyle modifications and intense exercise were shown to have some inhibiting effect on telomere shortening. Here, only three months of HBOT were able to elongate telomeres at rates far beyond any currently available interventions or lifestyle modifications.

In the America that I love, we will remain skeptical of claims of "reversing aging". But research like this will help us develop a better picture of the aging process.

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