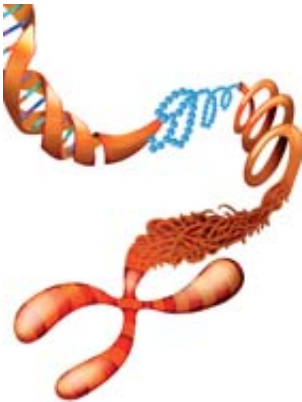


Danish discovery may change cancer treatment

April 29 2015



The telomers consitute the ends of the x-shaped chromosomes. Humans with genetically long telomeres have an increased risk of dying from cancer. Photo: Colourbox

Danish researchers from the University of Copenhagen and Herlev Hospital have made a discovery that may change the principles for treating certain types of cancer.

The discovery relates to the so-called [telomeres](#) that constitute the ends of [human chromosomes](#). Short telomeres are related to [unhealthy lifestyles](#), old age and the male gender - all of which are [risk factors](#) in terms of high mortality. Up until now, the assumption has been that short telomeres are related to ill health. The challenge for researchers worldwide has therefore been to find out whether or not the short

telomeres were indeed a signifier or an indirect cause of increased mortality.

By studying more than 64,000 Danes from the Oesterbro Study and the Herlev/Oesterbro Study - the largest telomere-study ever conducted - the researchers have reached the conclusion that the genetically determined length of telomeres has no influence on mortality in general. However, humans with genetically long telomeres have an increased risk of dying from [cancer](#) - which is the exact opposite of what the researchers expected to find. And this new knowledge may thus influence future cancer treatments.

"People have long telomeres because their cells are very apt at maintaining and repairing them. The disadvantage is that [cancer cells](#) are also very apt at maintaining and repairing their telomeres, which then prohibits the growth-inhibition that short telomeres would normally induce. If you are able to specifically target this repair process, in principle, you are then better able to stop cancer," says Stig Bojesen, Professor at the Faculty of Health and Medical Sciences at the University of Copenhagen and Chief Physician at Herlev Hospital, who has conducted the study in collaboration with Registrar Line Rode and Professor Boerge Nordestgaard.

The method is called telomerase-inhibition and has been studied as a possible [cancer treatment](#) since the mid-00s.

"So far, the method has not managed to fulfil the great expectations initially entertained. However, our discovery highlights that the principle of telomerase-inhibition should be afforded an important place in cancer treatment. The next challenge will be trying to locate more precisely, which cancer patients may benefit the most from such treatment," Stig Bojesen concludes.

More information: *Journal of the National Cancer Institute*,
jnci.oxfordjournals.org/content/107/6/djv074.full.pdf

Provided by University of Copenhagen

Citation: Danish discovery may change cancer treatment (2015, April 29) retrieved 10 April 2024 from <https://medicalxpress.com/news/2015-04-danish-discovery-cancer-treatment.html>

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