

## Hormone may hold key to helping elderly men live longer

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Elderly men with higher activity of the hormone IGF-1—or insulin-growth factor 1—appear to have greater life expectancy and reduced cardiovascular risk, according to a new study accepted for publication in the *Journal of Clinical Endocrinology & Metabolism (JCEM)*.

IGF-1 is a hormone similar in molecular structure to insulin. It is released from the liver and plays an important role in childhood growth and continues to have anabolic effects in adults.

In this study, researchers evaluated 376 healthy elderly men between the ages of 73 and 94 years. A serum sample was taken from each subject at the beginning of the study and researchers were contacted about the status of the participants over a period of eight years.

Subjects with the lowest IGF-1 function had a significantly higher mortality rate than subjects with the highest IGF-1 bioactivity. These results were especially significant in individuals who have a high risk to die from cardiovascular complications.

These new findings come as a result of a new form of testing for IGF-bioactivity. Researchers in this study used a new method, a bioassay, to measure the function of IGF-1 in the blood. Compared to commonly used methods to measure IGF-1, the IGF-1 bioassay gives more information about the actual function (bioactivity) of circulating IGF-1 in the body.

“The bioassay allowed us to more clearly see the association between high circulating IGF-1 bioactivity and extended survival,” said Michael Brugts, MD, of the Erasmus Medical Center in Rotterdam, The Netherlands and lead author of the study. “Interestingly, we could not find such a relationship when IGF-1 in blood was measured with the more commonly used methods.”

Immunoassays, commonly used previously to determine IGF-1 circulation levels, remove certain proteins that interfere with accurate measurements. Recent studies however have found that these proteins are important modulators of IGF-1 bioactivity. The bioassay used in this study does not disregard or remove this protein, thus enabling researchers to have a more accurate understanding of IGF-1 function.

Determination of IGF-1 function using the bioassay opens the possibility to gather new insights about the functions of IGF-1 in the body, said Brugts.

Source: The Endocrine Society

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