Mediterranean diet may decrease risk of prostate cancer progression

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In a study to examine a Mediterranean diet in relation to prostate cancer progression in men on active surveillance, researchers from The University of Texas MD Anderson Cancer Center found that men with localized prostate cancer who reported a baseline dietary pattern that more closely follows the key principles of a Mediterranean-style diet fared better over the course of their disease.

"Men with prostate cancer are motivated to find a way to impact the advancement of their disease and improve their quality of life," said Justin Gregg, M.D., assistant professor of Urology and lead author of the study, published today in *Cancer*. "A Mediterranean diet is non-invasive, good for overall health and, as shown by this study, has the potential to effect the progression of their cancer."

After adjusting for factors known to increase risk of cancer getting worse over time, such as age, prostate-specific antigen (PSA) and tumor volume, men with a diet that contained more fruits, vegetables, legumes, cereals and fish had a reduced risk of their prostate cancer growing or advancing to a point where many would consider active treatment. The researchers also examined the effect of diabetes and statin use and found a similar risk reduction in these patient groups.

The study, whose largest number of participants were white, also found that the effect of a Mediterranean diet was more pronounced in African American participants and others who self-identified as non-white. These findings are significant as the rate of prostate cancer diagnosis is more than 50% higher in African American men, who also have a higher risk of prostate cancer death and disease progression.

"The Mediterranean diet consistently has been linked to lower risk of cancer, cardiovascular disease and mortality. This study in men with early stage prostate cancer gets us another step closer to providing evidence-based dietary recommendations to optimize outcomes in cancer patients, who along with their families, have many questions in this area," said Carrie Daniel-MacDougall, Ph.D., associate professor of Epidemiology and senior author of the study.

After skin cancer, prostate cancer is the most common cancer in men in the United States. Since most cases are low-risk disease, localized to the prostate and have favorable outcomes, many men do not need immediate treatment and opt for active surveillance by their doctor. Treatments for prostate cancer can cause changes in quality of life and declines in urinary and sexual function, therefore there is interest in finding modifiable factors for men managed by active surveillance.

The study followed 410 men on an active surveillance protocol with Gleason grade group 1 or 2 localized prostate cancer. All study participants underwent a confirmatory biopsy at the beginning of the study and were evaluated every six months through clinical exam and laboratory studies of serum antigen PSA and testosterone.

Trial participants were 82.9% Caucasian, 8.1% Black and 9% other or unknown. The median age was 64, 15% of the men were diabetic and 44% used statins.

The men completed a 170-item baseline food frequency questionnaire, and Mediterranean diet score was calculated for each participant across 9 energy-adjusted food groups. The participants were then divided into three groups of high, medium and low adherence to the diet.

After adjustments for age and clinical characteristics, researchers saw a significant association between high baseline diet score and lower risk of cancer grade progression. For every one-point increase in the Mediterranean diet score, researchers observed a >10% lower risk of progression. After a median follow-up of 36 months, 76 men saw their cancer progress.

The study was limited by the low number of events in these men with mostly low risk disease monitored at MD Anderson. Future research is needed to see if the same effects are seen for larger and more diverse patient groups and men with higher-risk prostate cancer.

"Our findings suggest that consistently following a diet rich in plant foods, fish and a healthy balance of monounsaturated fats may be beneficial for men diagnosed with early-stage prostate cancer," Gregg said. "We are hopeful that these results, paired with additional research and future validation, will encourage patients to adapt a healthy lifestyle."

More information: Justin R. Gregg et al. Adherence to the Mediterranean diet and grade group progression in localized prostate cancer: An active surveillance cohort. *Cancer*. First published: 07 January 2021 doi.org/10.1002/cncr.33182