

Vitamin D deficiency may predict aggressive prostate cancer

By Honor Whiteman | Published Thursday 1 May 2014

Past research has associated low levels of vitamin D with a number of health problems. Now, a new study published in the journal *Clinical Cancer Research* suggests that vitamin D deficiency may be an indicator of aggressive prostate cancer.

According to study author Dr. Adam B. Murphy, assistant professor in the Department of Urology at the Northwestern University Feinburg School of Medicine in Chicago, IL, vitamin D is known to impact the growth and differentiation of benign and malignant prostate cells, both in prostate cell lines and animal models of prostate cancer.

However, their study revealed that low levels of the vitamin in men appeared to predict the risk of aggressive prostate cancer.

To reach their findings, the team enrolled 275 European-American men and 273 African-American men to the study between 2009 and 2013.

The men were aged between 40 and 79 years and were undergoing an initial prostate biopsy after abnormal prostate-specific antigen (PSA) or digital rectal examination (DRE) test results. A prostate cancer diagnosis from their biopsy was given to 168 men from each group.

In order to determine the levels of vitamin D in the men, the researchers measured levels of 25-hydroxyvitamin D (25-OH D) in their blood. The normal range of 25-OH D is 30 to 80 nanograms per milliliter (ng/ml).

The lower the vitamin D levels, the higher the risk of aggressive prostate cancer

The team found that the mean 25-OH D levels of African-American men were much lower than that of European-American men, at 16.7 ng/ml and 19.3 ng/ml, respectively.

The highest 25-OH D level found in European-American men was 71 ng/ml, while the highest level found in African-American men was only 45 ng/ml.

The researchers then divided the men into groups dependent on their 25-OH D levels. They were:

- Less than 12 ng/ml
- Less than 16 ng/ml
- Less than 20 ng/ml
- Less than 30 ng/ml.

They found that the lower a man's vitamin D levels, the higher their risk of prostate cancer.



Researchers found an association between low vitamin D levels and increased risk of aggressive prostate cancer, particularly for African-American men.

With 25-OH D levels lower than 12 ng/ml, European-American men were 3.66 times more likely to develop aggressive prostate cancer (Gleason grade 4+4 or higher), while African-American men were 4.89 times more likely to develop an aggressive form of the disease.

European-American men were also 2.42 times more likely to have a stage T2b tumor (when cancer can be felt or seen on scans but is contained within the prostate) if 25-OH D were less than 12 ng/ml, while African-American men were 4.22 times more likely to have a stage T2b tumor.

Furthermore, the researchers found that African-American men were also 2.43 times more likely to be diagnosed with prostate cancer if their 25-OH D levels were less than 20 ng/ml. No association was found between vitamin D deficiency and increased risk of prostate cancer diagnosis in European-American men.

A person's main source of vitamin D is from the sun, and skin color can affect how much is absorbed. The researchers say this may explain why African-American men appear to have increased risk of prostate cancer diagnosis and an aggressive form of the disease.

Speaking of the next steps for this research, Dr. Murphy says:

"We will next evaluate genetic polymorphisms in the pathways of vitamin D metabolism to better understand the risk alleles underlying this association.

Vitamin D deficiency seems to be important for general wellness and may be involved in the formation or progression of several human cancers. It would be wise to be screened for vitamin D deficiency and treated."

It seems men's health really is affected by low levels of vitamin D. Another study recently reported by *Medical News Today* suggests that low vitamin D levels may be associated with chronic widespread pain in men.



ADVERTISEMENT

3 Common Foods Surgeons Are Now Calling "Death Foods"





Have a medical question? Connect with an online doctor

GET STARTED

References

American Association for Cancer Research, news release, accessed 20 April 2014.

Additional information

Citations



- Popular news
- Editorial articles
- All news topics
- Knowledge center
- Your MNT
- Log in or sign up
- Newsletters
- Share our content
- About us
- Our editorial team
- Contact us
- Advertise with MNT

get our newsletter

Health tips, wellness advice and more.

Enter your email address

SUBSCRIBE

Your privacy is important to us.



Healthline Media UK Ltd, Brighton, UK.

© 2004-2018 All rights reserved. MNT is the registered trade mark of Healthline Media. Any medical information published on this website is not intended as a substitute for informed medical advice and you should not take any action before consulting with a healthcare professional.

Privacy | Terms | Ad policy | Careers



This page was printed from: <https://www.medicalnewstoday.com/articles/276190.php>

Visit www.medicalnewstoday.com for medical news and health news headlines posted throughout the day, every day.

2018 Healthline Media UK Ltd. All rights reserved. MNT is the registered trade mark of Healthline Media. Any medical information published on this website is not intended as a substitute for informed medical advice and you should not take any action before consulting with a healthcare professional.