Low Level of this Vitamin Found to be Linked to Early Menstruation

Posted By Dr. Mercola | September 06 2011

Story at-a-glance

- Girls who are vitamin D deficient may be more than twice as likely to go through early puberty, which may in turn increase your risk of cancer and other disease

The vitamin D receptor in cells also plays a role in the growth and proliferation of colon tumors; vitamin D deficiency may increase your risk of developing aggressive colon cancer

Vitamin D may be useful in treating the early stages of colon cancer

- Both children and adults should optimize vitamin D levels through safe sun exposure, using a safe tanning bed or taking a vitamin D3 supplement while monitoring your levels

By Dr. Mercola

In the 19th century the onset of menstruation occurred around the age of 15. Now the average age of the first period, or menarche, is around 12. The time during and before puberty is one of rapid development and change, which is why even months matter when it comes to first menstruation. Early puberty can set the stage for emotional and behavioral problems, and there is evidence that suggests these girls are also at increased risk of diabetes, heart disease and other cardiometabolic diseases, as well as cancer.

So this is a concerning trend that could have major public health implications in coming generations if it continues.

Scientists have brought forth a number of potential explanations for the rising rates of early puberty -- hormones and pesticides in food, chemicals in plastic and personal care products, obesity -- but one that deserves special attention, especially if you have a young daughter right now, is vitamin D.

Is Vitamin D Deficiency the Missing Link in Early Puberty?

It has been suggested that girls who live closer to the equator start puberty at a later age than girls who live in Northern regions. Since this indicates a potential connection with sun exposure, researchers decided to investigate whether vitamin D was, in fact, related.

Upon measuring vitamin D levels in 242 girls aged 5-12, researchers from the University of Michigan School of Public Health found that those who were deficient were twice as likely to start menstruation during the study period as those with higher levels.

Specifically, among the vitamin-D-deficient girls, 57 percent started their period during the study, compared to 23 percent with adequate vitamin D. However, researchers defined adequate vitamin D as ≥30 ng/mL, which is actually still a *deficiency* state! For optimal health, vitamin D levels should be a *minimum* of 50 ng/mL, which means the number of vitamin-D-deficient girls with early puberty was probably much higher than the study reported.

Is Lack of Vitamin D Responsible for Higher Breast Cancer Rates in Girls with Early Puberty?

The earlier you enter puberty, the longer you're exposed to elevated levels of the female hormone estrogen, which is a risk factor for certain cancers such as breast cancer. This has been the primary "link" between early puberty and cancer that has been explored, but it's important to understand that vitamin D deficiency is also a major risk factor for cancer, heart disease and many other diseases. So it could be that some of the increased risks that come from early puberty are linked to low vitamin D levels.

With vitamin D, the name is misleading as it isn't actually a vitamin at all but a potent neuro-regulatory steroidal hormone that influences nearly 3,000 of your 25,000 genes.

It literally turns on and off genes that can exacerbate -- or prevent -- many diseases. Vitamin D is actually able to enter cancer cells and trigger apoptosis (cell death). When JoEllen Welsh, a researcher with the State University of New York at Albany, injected a potent form of vitamin D into human breast cancer cells, half of them shriveled up and died within days! The vitamin D worked as well at killing cancer cells as the toxic breast cancer drug Tamoxifen, without any of the detrimental side effects and at a tiny fraction of the cost.

Further, research presented last year at the San Antonio Breast Cancer Symposium found that *more than half of women with breast cancer have low vitamin D levels*, which is really a significant finding. As WebMD reported, one of the study's researchers, Sonia Li, MD, of the Mount Vernon Cancer Centre in Middlesex, England, noted:

"Previous research suggests a biologic rationale for vitamin D putting the brakes on breast cancer development and spread … Breast cancer cells have vitamin D receptors, and when these receptors are activated by vitamin D, it triggers a series of molecular changes that can slow cell growth and cause cells to die."

Research has also shown a significant association between high levels of vitamin D and a decreased risk of developing cardiometabolic disorders, such as heart disease, type 2 diabetes, and metabolic syndrome, which are also linked to early puberty.

This Vitamin Found Highly Useful in Treatment of Colon Cancer

Other research has also revealed that the vitamin D receptor in your cells slows the action of beta-catenin, a protein involved in the process of developing colon cancer. The study's coordinator, Hector Palmer, told UPI.com:

"Our study has confirmed the pivotal role of the vitamin D receptor in controlling the anomalous signal that sparks off the growth and uncontrolled proliferation of colon cells which, in the final instance, ends up causing a tumor to emerge."

The implication is that vitamin D deficiency may lead to the development of aggressive colon cancer, whereas vitamin D3 may be beneficial in treating colon cancer in the beginning stages. Past research has also shown that people with colon cancer who had the highest average levels of vitamin D had half the mortality rate of those with the lowest average levels, indicating that optimizing your vitamin D levels can improve your survival rate even if you already have the disease.

Your organs can convert the vitamin D in your bloodstream into calcitriol, which is the hormonal or activated version of vitamin D. Your organs then use it to repair damage, including that from cancer cells.

These findings add to a veritable mountain of studies that have found vitamin D to generate astounding powers of protection against a wide variety of cancers. In fact, there are well over 800 studies showing vitamin D's effectiveness for cancer prevention and treatment!

Make Sure Your Child Does NOT Follow Official Recommendations for Vitamin D

In their latest vitamin D report, the Institute of Medicine's Food and Nutrition Board (FNB) provided a dismal updated recommended daily allowance (RDA) for vitamin D. According to the FNB, the new RDA for pregnant women and adults up to 70 years of age is the same as that for infants and children -- a measly 600 IU's.

FNB claimed the only evidence for the benefit of vitamin D they could document was the improvement of bone health, and this was what they based the RDA on. Please remember though that the lowest level of vitamin D is needed to help bone growth. Far higher levels are required to get the benefits for treating cancer, heart disease and the many other conditions that vitamin D benefits, such as influenza, heart- or liver- disease, respiratory infections and possibly early puberty!

Scientific evidence supports a far higher RDA for all age groups, and the FNB is recommending a vitamin D blood serum level of just 20 ng/ml, which, based on more appropriate parameters for optimal health, signifies a state of severe deficiency!

To me, it borders on criminal negligent malpractice to ignore the abundance of scientific evidence that suggest deficiency levels are far above 20 ng/ml.

So how much vitamin D do you need?

IMPORTANT NEW UPDATE!!

We have long known that it is best to get your vitamin D from sun exposure. There is some compelling emerging evidence that suggests oral vitamin D may not provide the same benefits. It appears that vitamin D plays a crucial role in sulfur metabolism and when you swallow it orally it will not have the same benefit as getting it from the sun.

I am working out the details and carefully researching this but this is VITAL. Until I am able to present a comprehensive explanation please understand that it is best to get ALL your vitamin D from the sun not from supplements.

It's important to realize that sun exposure needs are dependent on numerous factors, such as the color of your skin, your location, age, altitude, time of day, and season. For instance, the lighter your skin, the more vitamin D you will produce from sun exposure, and the closer you live to the equator, the more vitamin D the sun on your skin will produce.

Personally I have not taken any oral vitamin D for over a year and my levels run from 75 ng/ml to 110 ng/ml, as I make sure I regularly get 1-2 hours of daily sun exposure when the weather cooperates. I spend most of my winter in the sub tropics, however, if I didn't I would use a safe tanning bed.

Obviously getting sun exposure to produce vitamin D is not an option at all for most of us. So the next best option would be to use a safe tanning bed, which uses an electronic ballast rather than a dangerous magnetic ballast.

If for whatever reason you are unable or unwilling to follow the above recommendations then it makes sense to use the third best option, which is oral vitamin D3 -- NOT vitamin D2. The only way to truly optimize your own vitamin D levels are to work with your doctor, take the 25 OH D test and then supplement with a dose somewhere in the range of 5,000-8,000 IU for adults, and retest your blood levels after a few months of supplementation. You may need to increase your levels to over 25,000 if you are non-responsive to lower doses, but remember it is FAR better to raise your vitamin D level by sun exposure.

For children below the age of 5 I recommend 35 IU per pound per day and for pregnant women I recommend anywhere from 5,000 to 10,000 IU per day. But again, there really is no "right" amount unless you take the time to have your blood levels checked.

The OPTIMAL blood level that you're looking for is 50-65 ng/ml and for those with diseases probably 60-85 ng/ml. Remember that if you were in the sun nearly every day with large amounts of your skin exposed and not taking any oral vitamin D, your level would be around 100 ng/ml.

This range applies for everyone: children, adolescents, adults and seniors.

Keeping your level (and your children's) in this range, and even erring toward the higher numbers in this range, is going to give you the most protective benefit. And the way you maintain your levels within this range is by getting tested regularly -- say two to four times a year in the beginning, and adjusting your vitamin D intake and/or sun exposure accordingly.

Get Your Vitamin D Levels Tested and Help Fight the Epidemic of Vitamin D Deficiency

Carole Baggerly, founder of GrassrootsHealth and a major vitamin D proponent, is currently studying the long-term health effects of vitamin D. *D*Action* is a worldwide public health campaign, aiming to solve the vitamin D deficiency epidemic through focus on testing, education, and grassroots word of mouth. You can still participate in the *D*action* study, if you like! Best of all, Mercola subscribers will receive a 15 percent discount on the 5-year sponsorship.

To sign up, and get your discount, follow these instructions:

- When you sign up, **at the beginning of the Payment Options** (The area where it says "Please input any CLINIC ID or COUPON CODE assigned to your organization and click Apply:") **on the Order form**, **please enter 'Mercola.'** Then continue with your payment process.
- When you join D*action, you agree to test your vitamin D levels twice a year during a 5-year program, and share your health status to demonstrate the public health impact of this nutrient.
- There is a $60 fee for every 6 months for your sponsorship of the project (Mercola sponsors get a 15 percent discount), which includes a complete new test kit to be **used at home** (except in the state of New York), and electronic reports on your ongoing progress.
- When you finish the questionnaire, you can choose your subscription option. You will get a follow-up email every 6 months reminding you "it's time for your next test and health survey."
- To join now, please follow this link to the sign up form.

I, along with GrassrootsHealth, expect this study will demonstrate the real significance of this nutrient on your health and, of course, its value in the *prevention* of many diseases and disorders in both adults and children. So please sign up today so you can be part of a team of Mercola subscribers setting out to demonstrate that PREVENTION WORKS!