

Vitamin D3 News

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In This Issue

Vitamin D cuts premature birth risk and protects newborn babies.

The main story presented today is taken from an article by Oliver Gillie, published in *The Times*, October 10th, 2009. Oliver is an independent journalist and expert on Vitamin D3. He has written extensively on the subject and is a tireless campaigner to increase awareness of the benefits of Vitamin D3. Those interested in Vitamin D3 will be familiar with his work. Oliver's major publications are available free of charge at his website: <http://www.healthresearchforum.org.uk>

Vitamin D3 cuts premature birth risk and protects newborn babies

Powerful new evidence about the way that Vitamin D3 can reduce the risk of premature births and boost the health of new-born babies has emerged from an international research conference in Bruges. Delegates were told that mothers who were given ten times the usual dose of vitamin D3 during pregnancy had their risk of premature birth reduced by half and had fewer small babies.

The vitamin's benefits have been observed previously in uncontrolled studies of pregnant women and babies, but this is the first time they have been found in a scientific trial which met the most stringent criteria for "evidence based inquiry". The findings may make it necessary for health departments to revise advice presently given to pregnant and breast feeding women in the UK.

The investigators, Dr Bruce Hollis and Dr Carol Wagner of the Medical University of South Carolina, Charleston, met rigorous safety tests which were required by the Federal Drug Administration. The study was funded by the National Institutes of Health. The women, who all lived around Charleston, South Carolina, began taking 4000 IUs per day of Vitamin D3 after their first clinic visit at about three months of pregnancy. (4000 IUs or international units equals 100 microgms). A control group took 400 IUs (10 micrograms) which is the normal recommended dose in the US and UK. The women had their blood and urine tested monthly to ensure that calcium and vitamin D levels were within safe limits.

Over the two and a half years of the study thousands of tests were made and monitored by an external safety committee. Not a single test showed any

adverse effect of the large dose of vitamin D3. The average level of vitamin D in the women's blood increased by about 50 per cent.

Some 600 women took part in the trial which included similar numbers of African Americans, Hispanic Americans and whites. The number of premature babies born to women taking high dose vitamin D was reduced by half at both 32 and 37 weeks, and there were also fewer babies who were born "small for dates" - that is much smaller than would be expected considering the length of time spent in the womb.

The women had a 25 per cent reduction in infections, particularly respiratory infections such as colds and flu as well as fewer infections of the vagina and the gums. The "core morbidities of pregnancy" were also reduced by 30% in the women who took the high dose vitamin D3. These included diabetes, raised blood pressure, and pre-eclampsia, an increase in blood pressure and fluid which may, if untreated, cause the death of the mother and/or the baby. Babies getting most vitamin D3 after birth suffered from fewer colds and less eczema.

The findings of the Charleston team were reported publicly for the first time at the 14th international workshop on vitamin D, a three yearly conference organized this time in Bruges by the distinguished professors Roger Bouillon of the Catholic University of Leuven, Belgium, and Anthony W. Norman of University of California, Riverside.

The Charleston team is running another trial in breast feeding women who are taking 6,400 IUs per day, a dose 16 times the amount of vitamin D3 usually recommended. This high dose enables women to make breast milk which has sufficient vitamin D3 for all the baby's needs, that is 400 IUs per day.

The American investigations used vitamin D3, the human form of the vitamin which is more potent than the vitamin D2, the plant form of Vitamin D.

"I'm telling every pregnant mother I see to take 4,000 IUs and every nursing mother to take 6,400 IUs of vitamin D3 a day," said Dr Hollis. "I think it is medical malpractice for obstetricians not to know what the vitamin D level of their patients is. This study will put them on notice."

In addition, the normally recommended level of sun exposure does not produce enough vitamin D3, according to a separate study reported at the Bruges meeting. Sunlight is the major source of vitamin D3 and so advice on sun exposure is crucial for health. Food cannot supply more than 10% of what is needed.

Dr Jackie Berry, Dr Ann Webb and others from the University of Manchester studied the effect of sunlamp treatment, which simulated summer sun in the UK, on 120 white volunteers who wore only a T shirt and shorts. The treatments were given three times a week for six weeks in winter when blood levels of vitamin D3 are low and only 26% of the volunteers obtained optimum blood levels as a result of the treatments.

This new research shows that advice that casual exposure of hands and face provides sufficient vitamin D3 is completely wrong. Revised advice from the Department of Health in the UK, December 2007 suggested that pregnant women would get sufficient vitamin D3 if they exposed shoulders as well as arms and legs. But this too is now shown to be insufficient by the study of simulated "British sunlight". To get optimum benefit from sunbathing as many clothes as possible should be removed, or it should be done more often than three times a week, or for longer than 13 minutes a day. All these increases in exposure can be difficult to achieve especially when sunny weather seldom lasts for six consecutive weeks in the UK.

In winter time in the UK the optimal level of vitamin D3 can only be obtained by taking a supplement because the sun is too weak. The Standing Committee of European Doctors (CPME) is preparing a report on vitamin D which is expected to recognize, contrary to advice in the UK, that everyone, apart from young children, needs a vitamin D3 supplement of at least 1000 IUs a day and probably 2000 for full health.

The higher 2000 figure is supported by observational studies of groups of people showing higher levels of vitamin D are associated with a reduced risk of cancer, heart disease and immune system diseases as well as classic bone diseases.

Pregnant Women Deficient in Vitamin D

Just prior to the conference in Bruges, a study was published in the *British Journal of Nutrition* showing that the majority of pregnant women are grossly Vitamin D deficient. According to the study conducted in Northern Ireland, current dosing recommendations do not allow many expectant mothers to achieve adequate blood levels of Vitamin D.

Previous studies have already shown that infants born to vitamin D deficient mothers may be at greater risk of low birth weight, lower respiratory tract infections, asthma, and weak bones.

In the current study, the researchers evaluated 99 pregnant women at 12, 20, and 35 weeks of gestation as well as 38 nonpregnant women. The investigators found that serum concentrations of 25-hydroxyvitamin D (25[OH]D), the non-active form of the vitamin in the body, were deficient at all three testing times. Specifically, at 12 weeks, 35 percent of women were deficient and 96 percent had insufficient levels of vitamin D3. By 35 weeks of gestation, 16 percent of women were vitamin D deficient and 75 percent had insufficient levels of the nutrient.

However, of particular interest is that this study considered levels less than 20ng/ml to indicate insufficiency. Vitamin D experts agree that levels less than 50ng/ml should be considered insufficient. Had the study analyzed the results using levels of less than 50ng/ml as the definition of insufficiency the results would have been much worse.

Holmes VA et al. *British Journal of Nutrition* 2009 Sept; 102(6): 876-81
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Editorial Comment

Special care baby units to treat premature infants are amongst the most expensive units to operate in any hospital. The technology needed to support these infants and the cost of training staff to run these units is astronomical. A simple and inexpensive treatment that can reduce the incidence of prematurity by 50% has enormous economic consequences--not to mention the savings in terms of emotional stress that parents endure as they wait for a premature infant to reach maturity. Clearly, these data show that all pregnant women should have their Vitamin D levels checked for the benefit of both themselves and their babies. Please forward this information to anyone who may be interested.

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