VITAMIN D – ABSTRACTS OF NEW STUDIES

Summary# 46414

Topic: **Dose of Vitamin D needed to Attain Optimal Vitamin D Status**

Keywords: **VITAMIN D STATUS, HYPOVITAMINOSIS D** - *Vitamin D, Serum 25(OH)D, 25-hydroxyvitamin D*

Reference: *"Vitamin D intake to attain a desired serum 25-hydroxyvitamin D concentration," Aloia JF, Patel M, et al, Am J Clin Nutr, 2008; 87(6): 1952-8. (Address: John F. Aloia, Winthrop University Hospital, 222 Station Plaza North, Suite 510, Mineola, NY, USA. E-mail: jaloia@withrop.org).*

Summary: In a 6-month, prospective, randomized, double-blinded, placebo-controlled trial involving 138 subjects, a dose of 95 microg/d (3800 IU) was found to be the dose of vitamin D3 necessary for subjects above a 25(OH)D threshold of 55 mmol/L and a dose of 125 microg/d (5000 IU) was found to be the dose necessary for subjects below a threshold of 55 mmol/L to attain optimal vitamin D status (defined as 25(OH)D >75 nmol/L).

Summary# 46421

Topic: **Optimum Vitamin D Status May Improve Survival in Colorectal Cancer Patients**

Keywords: **COLORECTAL CANCER, MORTALITY** - *Vitamin D, 25-hydroxyvitamin D(3), 25(OH)D*

Reference: *"Circulating 25-hydroxyvitamin d levels and survival in patients with colorectal cancer," Ng K, Meyerhardt JA, et al, J Clin Oncol, 2008; 26(18): 2984-91. (Address: Division of Medical Oncology, Dana-Farber Cancer Institute Boston, MA 02115, USA. E-mail: kng4@partners.org).*

Summary: In a prospective study involving 304 subjects diagnosed with colorectal cancer between 1991 and 2002, higher pre-diagnosis plasma 25(OH)D levels were found to be associated with a signification reduction in overall mortality. Subjects in the highest quartile of 25(OH)D (prior to diagnosis) were found to have an adjusted HR of 0.52 for overall mortality, compared to subjects in the lowest quartile, and a trend towards improved colorectal cancer-specific mortality was observed as well, with an adjusted HR of 0.61 for subjects in the highest versus the lowest 25(OH)D quartile. The authors conclude, "Among patients with colorectal cancer, higher prediagnosis plasma 25(OH)D levels were associated with a significant improvement in overall survival. Further study of the vitamin D pathway and its influence on colorectal carcinogenesis and cancer progression is warranted."

Summary#	46422
Topic:	**Low Vitamin D Status Linked to Overall Mortality and Cardiovascular Mortality**
Keywords:	CARDIOVASCULAR DISEASE, MORTALITY, VITAMIN D STATUS - Vitamin D, 25(OH)D, 25-hydroxyvitamin D, 1,25-dihydroxyvitamin D
Reference:	"Independent association of low serum 25-hydroxyvitamin d and 1,25-dihydroxyvitamin d levels with all-cause and cardiovascular mortality," Dobnig H, Pilz S, et al, Arch Intern Med, 2008; 168(12): 1340-9. (Address: Division of Endocrinology and Nuclear Medicine, Department of Internal Medicine, Medical University of Graz, Auenbruggerplatz 15, A-8036 Graz, Austria. harald.dobnig@meduni-graz.at).
Summary:	In a prospective cohort study involving 3,258 subjects (mean age: 62 years) scheduled for coronary angiography, low vitamin D status was found to be associated with cardiovascular mortality and all-cause mortality. Patients were followed up with for an average of 7.7 years, during which time 22.6% of subjects died (n=737), of which 463 were from cardiovascular disease. Comparing patients in the highest quartile of 25-hydroxyvitamin D, the multivariate-adjusted hazard ratios for subjects in the lower two 25-hydroxyvitamin D quartiles were 2.08 for all-cause mortality and 2.22 for cardiovascular mortality. Similar results were found comparing subjects in the highest versus the lowest quartiles of 1,25-dihydroxyvitamin D. In addition, low levels of 25-hydroxyvitamin D were significantly associated with inflammation (assessed via C-reactive protein and interleukin-6 levels), oxidative burden (serum phospholipids and glutathione levels) and cell adhesion (vascular cell adhesion molecule 1 and intercellular adhesion molecule 1 levels). These results suggest that low vitamin D status is associated with all-cause and cardiovascular mortality. The authors state that additional intervention trials are needed to prove a causal relationship.
Summary#	46416
Topic:	**Vitamin D Deficiency in Pregnancy and Newborn Infants**
Keywords:	PREGNANCY, INFANCY, NEONATAL CARE, NUTRITIONAL DEFICIENCY - Vitamin D, Hypovitaminosis D, Serum 25-Hydroxyvitamin D, 25(OH)D
Reference:	"Vitamin D, parathyroid hormone and calcium levels in pregnant women and their neonates," Bowyer L, Catling-Paull C, et al, Clin Endocrinol (Oxf), 2008 June 20; [Epub ahead of print]. (Address: St. George Hospital, Gray Street, Kogarah, NSW 2217, Australia).
Summary:	In a population-based study involving 971 pregnant women and their neonates living in Sydney, Australia, vitamin D deficiency was found to be quite prevalent among pregnant women, with immigrant women, dark-skinned women, and veiled women having the greatest risk. Furthermore, maternal vitamin D deficiency was found to increase the risk of their infants

having vitamin D deficiency and low birth weight. Vitamin D deficiency - defined as 25(OH)D < 25 nmol/L - was found in 15% of women and 11% of their neonates. The lowest levels of 25(OH)D were found in late winter/early spring. According to multiple logistic regression analysis, vitamin D deficiency was associated with: wearing a veil (21.7); having dark skin (2.7); and being born outside of Australia (2.2). A slightly reduced risk was associated with younger maternal age (0.93). An increased risk of vitamin D deficiency among neonates was associated with mat ernal vitamin D deficiency (OR=17.2). Infants of mothers with vitamin D deficiency were more likely to have lower birth weight (3245 g) as compared to infants of mothers with sufficient vitamin D status (3453 g). The results of this study highlight the prevalence of vitamin D deficiency among pregnant women, where certain groups have a higher risk of deficiency; these results also highlight the risk of vitamin D deficiency and lower birth weight among infants of mothers with vitamin D deficiency.