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**Daily, high dose vitamin D supplementation reduces the incidence of myocardial infarctions in surgical intensive care unit patients**

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Often overlooked, are the roles that chronic inflammation/oxidative stress play in the pathogenesis of myocardial infarctions. We hypothesized that vitamin D (a secosteroid hormone with anti-inflammatory capabilities) would reduce the incidence, length of stay, and hospital costs in surgical intensive care unit patients. We performed a prospective study of 565 patients divided into two groups admitted to the surgical intensive care unit at Grady Memorial Hospital between August 2009 and August 2012. Group 1 was treated with vitamin D 50,000 international units weekly. Group 2 was treated with vitamin D 50,000 international units daily. Primary outcomes were incidence of myocardial infarctions, length of stay, and cost. There were not any statistical differences between the two groups in terms of demographics: age, gender, race, serum albumin, CD4 count, or baseline vitamin D levels. The number/incidence of myocardial infarctions in Group 1 was 22 (7.8%) and 11 (3.9%) in Group 2 (p value 0.047). The length of stay for the 22 patients in Group 1 who had a myocardial infarction was 36.1 days and 8.2 days for the 11 patients in Group 2 (p value 0.007). The intensive care unit cost for the 22 patients in Group 1 who had a myocardial infarction was \$138,991 and \$31,549 for the 11 patients in Group 2 (p 0.0005). Our study demonstrates that vitamin D deficiency is associated with an increased incidence of myocardial infarctions, cost, and length of stay. Further studies are needed to fully assess the impact of vitamin D on cardiovascular health.

**Biography**

L Ray Matthews is a full-time faculty member of Morehouse School of Medicine, Department of Surgery in Atlanta, Georgia, where he serves as Associate Professor of Clinical Surgery and Director of Surgical Critical Care. He received his medical degree from the University of Mississippi and completed his surgical residency training at Morehouse School of Medicine. He completed two years surgical critical care fellowship at the Mayo Clinical College of Medicine in Rochester, Minnesota. He is a published author on landmark vitamin D-deficiency manuscripts.

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