The Urinary Cotinine and Serum 25 Hydroxyvitamin D Levels in Male Smokers

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Objective: To assess urinary cotinine and the effects of smoking on 25 (OH) D levels in 67 male smokers. Material and Method: Urine and blood specimens were analyzed for cotinine and serum 25 hydroxyvitamin D (25 (OH) D) concentrations by high performance liquid chromatography (HPLC) and chemiluminescent immunoassay, respectively. The accuracy, precision and detection limit of the HPLC method were also tested. Results: The detection limit of urinary cotinine was 0.02 μg/ml. The recoveries of cotinine concentrations of 0.15-2.0 μg/ml were greater than 95%. Only 23.9% of smokers had sufficient levels of serum 25 (OH) D at least 30 ng/ml. The smokers were divided into dairy co-operative smokers and other smokers. The average urinary cotinine concentrations of 1,421.42 and 1,866.52 μg/g creatinine were not significantly different in dairy co-operative smokers and other smokers whereas the average 25 (OH) D of 29.09 and 22.65 ng/ml, respectively, were significantly different at p-value of < 0.001. Conclusion: The 42.86% and 10.26% of the dairy co-operative smokers and other smokers had sufficient serum 25 (OH)D levels to prevent osteoporosis.

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