

Vitamin D Deficiency and Insufficiency in Postmenopausal Women with Obesity

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Abstract : Deficiency and insufficiency of Vitamin D is a pandemic of the 21st century. Obesity patients have a lower level of vitamin D, but the literature data are contradictory. The purpose of this study is to investigate deficiency and insufficiency vitamin D in postmenopausal women with obesity. We examined 1007 women aged 50-89 years. Mean age was 65.74±8.61 years; mean height was 1.61±0.07 m; mean weight was 70.65±13.50 kg; mean body mass index was 27.27±4.86 kg/m², and mean 25(OH) D levels in serum was 26.00±12.00 nmol/l. The women were divided into the following six groups depending on body mass index: I group – 338 women with normal body weight, II group – 16 women with insufficient body weight, III group – 382 women with excessive body weight, IV group – 199 women with obesity of class I, V group – 60 women with obesity of class II, and VI group – 12 women with obesity of class III. Level of 25(OH)D in serum was measured by means of an electrochemiluminescent method - Elecsys 2010 analyzer (Roche Diagnostics, Germany) and cobas test-systems. 34.4% of the examined women have deficiency of vitamin D and 31.4% insufficiency. Women with obesity of class I (23.60±10.24 ng/ml) and obese of class II (22.38±10.34 ng/ml) had significantly lower levels of 25 (OH) D compared to women with normal body weight (28.24±12.99 ng/ml), p=0.00003. In women with obesity, BMI significantly influences vitamin D level, and this influence does not depend on the season.

Keywords : obesity, body mass index, vitamin D deficiency, vitamin D insufficiency, postmenopausal women, age

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