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The clinical and genetic parallels of vitamin D provision and benign breast diseases

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Abstract

© Bionika Media Ltd. Objective. To investigate vitamin D (VD) levels in women with various forms of benign breast diseases (BBD) in relation to their clinical features, as well as the impact of CYP2R1 rs2060793 polymorphism on the level of VD. Subjects and methods. Genotyping for the locus -1559 T>C gene CYP2R1 (rs2060793) was carried out by realtime polymerase chain reaction in 247 women (131 healthy individuals and 116 patients with BBD). The level of VD was estimated by chemiluminescence immunoassay in 100 patients with BBD and 75 healthy women. Results. 88% of the patients with BBD had a low blood VD level while 53% of them had VD deficiency that correlated with the severity of the disease. The lowest VD provision among the healthy women is characteristic of homozygous carriers of C alleles in the CYP2R1 gene. The patients with BBD had a persistent VD deficient state, regardless of the variant of CYP2R1 gene polymorphism. Conclusion. VD deficiency in women with BBD has a direct impact on the clinical symptoms of the disease and is unassociated with the genetic polymorphism in the CYP2R1 gene.

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Keywords

Benign breast diseases, CYP2R1 gene polymorphism, Vitamin D

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