VITAMIN D RECEPTOR GENE POLYMORPHISMS IN PEDIATRIC PATIENTS WITH LEUKEMIA-LYMPHOMA: DOES IT HAVE AN IMPACT ON MALIGNANCY?

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Abstract

Background: Since now, genetic, infectious and environmental factors that may cause cancer are being investigated in many studies all over the world and still too many studies are ungoing about this subject. Genetic variations have been identified in specific regions of the Vitamin D receptor (VDR) gene and many researches were focused whether these variations are associated with cancer. Polymorphisms in VDR gene can be associated with prostate, breast, colon and lung cancer. Studies in this subject with children are scarce. Procedure: This study includes 40 lymphoma or leukemia patients 0-18 years of age, and 59 volunteers at the same ages as control group. Serum calcium(Ca), phosphorus(P), alkaline phosphatase(ALP) and 25-OH-D3 levels and Fok-I, Bsm-I and Taq-I polymorphism of VDR gene were investigated in both patient and control groups. The data was analyzed by SPPS statistical programs. Results: There were no statistically significant difference in the Ca, P and 25-OH-D3 levels in the patients and the controls. While there were no difference in the genotypic characteristics of the groups, we found that "A" and/or "C" carriers for Bsm-I and/or Taq-I polymorphisms are seen in higher frequency in the control group than pediatric leukemia-lymphoma patients. (Odds ratio=0.489; CI 95%=0.275-0.871 and 0.519; CI 95%=0.280-0.964) ($p<0.05$). Conclusions: In this study, we found that "A" and/or "C" carriers for Bsm-I and/or Taq-I polymorphisms are seen in higher frequency in the control group than pediatric leukemia-lymphoma patients. So we can say that these polymorphisms are not risk factors for these cancers.

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