
Further observation of Hemoglobin Beograd (B121 Glu-Val) in Turkish population

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ABSTRACT

Hemoglobin Beograd (B121 Glu-Val) is a rarely reported hemoglobin variant. It was first reported in Turkey in 1984. This report is a further observation of this variant in a 22-years old Turkish man.

Key Words: Hemoglobin Beograd, Turkey.

ÖZET

Türk toplumunda Hemoglobin Beograd'ın (B121 Glu-Val) yeniden gösterilmesi

Hemoglobin Beograd (B121 Glu-Val) nadir olarak bildirilen bir hemoglobin varyantıdır. Türkiye'de ilk defa 1984'te bildirilmiştir. Bu yazıda aynı varyantın 22 yaşında bir Türk erkeğinde saptanması sunulmaktadır.

Anahtar Kelimeler: Hemoglobin Beograd, Türkiye.

INTRODUCTION

Hemoglobin Beograd (B121 Glu-Val) is a rare hemoglobin variant which was reported first in a Yugoslavian family, then from Spain, and a Turkish individual immigrated from Yugoslavia^[1-5]. Since the first observation of hemoglobin Beograd in Turkish population

in 1984, it is not observed^[6]. Variant's electrophoretic mobility is similar to that of hemoglobin S/hemoglobin D in cellulose acetate electrophoresis with no sickling property. This variant is also reported in combination with hemoglobin Lepore and in association with beta-thalassemia^[1,4,5].

A CASE REPORT

The present report describes a further observation of this variant in a 22-years old Turkish man living in Mersin, a city located at the Mediterranean region of Anatolia. The variant was detected during screening. Routine hematological methods were used.

Cellulose acetate electrophoresis showed one abnormal band with a mobility similar to hemoglobin S/D; the amount of variant was 30.6%. His HbA₂ was 2.4%. The rest was hemoglobin A (67%). PCR amplification was first performed with the primers 5' CAATG-TATCATGCCTCTTTGCACC 3' and 5'GAGT-CAAGGCTGA GAGATGCAGGA 3' then with inner primers 5' TGCATATAAATTGTAAGT-GAT 3' and 5' CACTGACCTCCCACATTCCC 3'. Direct automated sequencing of the exon 3 of the beta-globin gene (Beckmann Coulter,

USA) revealed the variant as a mutation at codon 121 GAA-GTA that leads to Glu to Val substitution which was previously described as hemoglobin Beograd (Figure 1).

DISCUSSION

This is the second detection of hemoglobin Beograd in our population. Further observation of Hemoglobin Beograd suggests that this variant is found sporadically in the Turkish population. As it's mobility is similar to other hemoglobin D variants, it should be remembered that discrimination of Hemoglobin Beograd is needed especially from other variants of codon 121 such as hemoglobin D-Los Angeles, hemoglobin St. Francis, and hemoglobin D-Neath.

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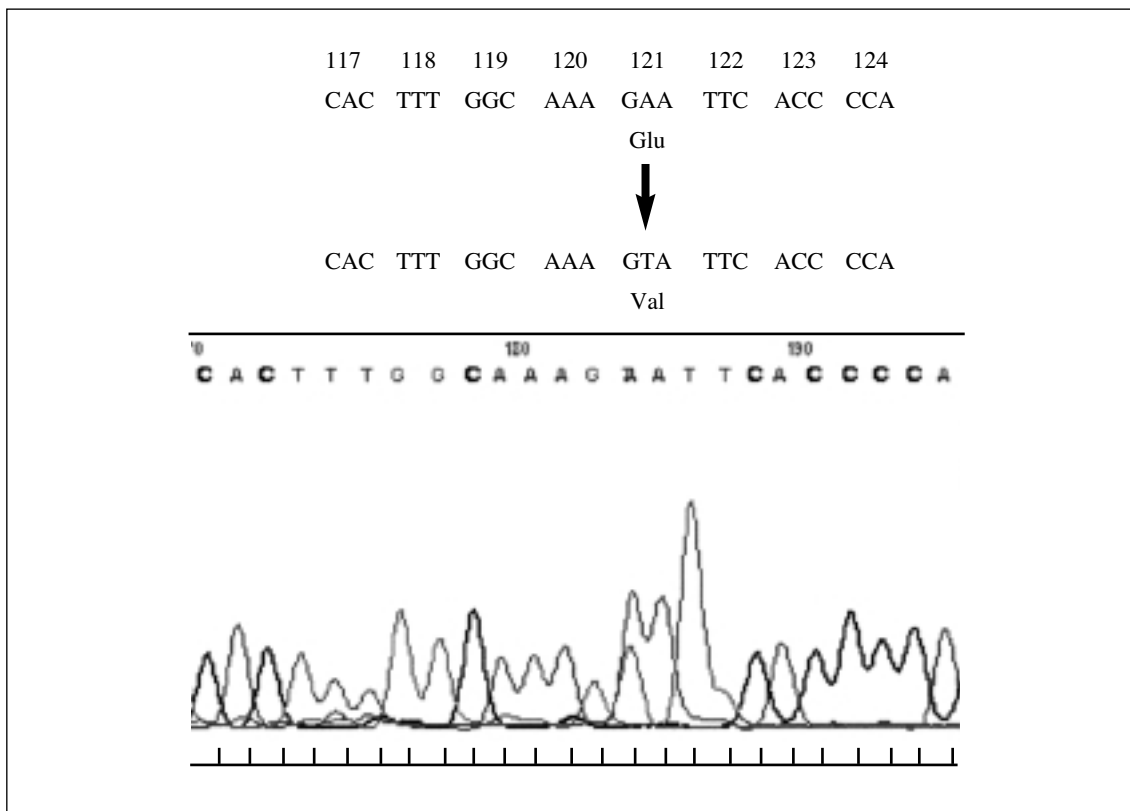


Figure 1. Automatic DNA sequencing data of the patient showing hemoglobin Beograd.

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