Online journal ISSN - 1676-5680
GMR Genetics and Molecular Research
EVOLUTION AND TECHNOLOGY

Short Communication

Abnormal hemoglobin phenotypes in carriers of mild anemia in Latin America

P.J.A. Zamaro and C.R. Bonini-Domingos

Departamento de Biologia, Laboratório de Hemoglobinas e Genética das Doenças Hematológicas, Instituto de Biociências, Letras e Ciências Exatas, Universidade Estadual Paulista, São José do Rio Preto, SP, Brasil

Corresponding author: C.R. Bonini-Domingos
E-mail: claudiabonini@sjrp.unesp.br

Genet. Mol. Res. 9 (1): 425-428 (2010)
Received November 29, 2009
Accepted December 23, 2009
Published March 9, 2010

ABSTRACT. We looked for abnormal hemoglobins in blood samples sent for diagnosis of anemia. Identification of the hemoglobins was made using electrophoretic, chromatographic and molecular procedures. The 2020 blood samples were of patients from various regions of Brazil and from some other Latin American countries. Among the abnormal hemoglobins that we found, 3.5% are known to be rare, while 51% had an electrophoretic profile similar to that of Hb S at alkaline pH. Differentiation was possible only by combining electrophoretic and chromatographic methods. Hb Hasharon, an alpha globin chain mutant, was the most frequently found variant hemoglobin; it accounted for 14.3% of the abnormal DNA samples. The other abnormal hemoglobin phenotypes displayed distinct electrophoretic profiles; most of them migrated faster than Hb A. The frequencies of the different abnormal hemoglobin profiles that we found reflect the miscegenation of the Latin American population and indicate the importance of hemoglobin studies using various methods in combination for accurate diagnosis and appropriate counseling of carriers and their families.

Key words: Abnormal Hb; Polymorphism; Anemia; Thalassemia; Hemoglobinopathies

