Prevalence of Thalassemia and G6PD Deficiency in North Cyprus

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Thalassemia syndromes and G6PD deficiency are the most common hemolytic anemias in Cyprus, where they cause a very serious health problem [1–3]. In order to implement programs for the prevention of thalassemia syndromes, the real incidence of the disease should be known. In Cyprus, there are two main communities: Turkish Cypriots and Greek Cypriots. The prevalence of thalassemia among Greek Cypriots is well established [1–6]. Recently, Angastiniotis and Hadjiminias [3] have reported the frequency of heterozygous α -thalassemia in Greek Cypriots to be 17.2%. After the first case reports from Turkish Cypriots, some articles have indicated the prevalence of heterozygous β -thalassemia to range between 13 and 21% in that population [1, 5–8]. Those figures were based on hospital data or crude estimations. We screened 1,365 apparently healthy subjects among Turkish Cypriots in North Cyprus with cellulose acetate electrophoresis. 197 (14.4%) were found to carry β -thalassemia, the high HbA₂ type being the most common type.

The presence of the α -thalassemia gene in Cyprus is well known [6, 9]. Hadjiminias et al. [9] determined the frequency of α -thalassemia in Greek and Turkish Cypriot newborns as to be 12.4 and 6.8% respectively, stating that hemoglobin H disease has a frequency of 1 case per 200–500 inhabitants. Although we have not detected Hb Bart in 29 cord blood samples, we found 4 cases of hemoglobin H disease among 1,365 samples (0.28%). This result is similar to that of Hadjiminias et al. [9].

Furthermore, 5 hemoglobin Lepore families were detected. Family surveys also reported a total of 18 hemoglobin Lepore cases among 29 members of these families. 15 of them had hemoglobin Lepore traits and 3 had a combination of hemoglobin Lepore and β -thalassemia. Beaven et al. [10] and Gürgey et al. [11] have previously reported hemoglobin Lepore families in Turkish Cypriots. These data indicate that there is a hemoglobin Lepore focus in North Cyprus.

Favism is also a health problem in Turkish Cypriots [2]. Traditionally, Turkish Cypriot parents forbid their children to eat Fava beans. The prevalence of G6PD deficiency is well established in Greek Cypriots as 3.1–5.2% [2, 4]. Say et al. [12] determined G6PD deficiency among 200 Turkish Cypriots living in Turkey to be 3.5%. In our study, we screened 250 healthy Turkish Cypriots of whom 31 (12.4%) were G6PD-deficient.

Thus it can be said that the prevalence of thalassemia and G6PD deficiency is rather high in Turkish Cypriots and that population screening programs as well as public and private health education and the establishment of an antenatal diagnosis unit are important aspects of health policy in the prevention of thalassemia and favism in North Cyprus.

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