Febrile seizure in thalassemic patients

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Abstract

Objective: Febrile seizure is the most common seizure disorder in children. Its pathophysiology is not fully understood yet; however, some risk factors have been cited for it. Iron is one of these influential elements and is involved in the metabolism of some neurotransmitters which are reduced in irondeficiency anemia and also increases the sensitivity of neural cells during a febrile episode. The present study aimed to determine the rate of febrile seizure in thalassemic patients and to compare it with the corresponding rate in the normal population.

Materials & Methods: This descriptive cross-sectional study was conducted on 766 patients with thalassemia major. They were all older than 6 months and were referred to Dastghaib Cooly's Clinic, affiliated to Shiraz University of Medical Sciences, from Oct 2006 to May 2007, and 766 normal and healthy children as the control group. Questionnaires containing demographic data and past history of febrile seizure, age of febrile seizure, number of episodes, hospitalization, and related family history were prepared and filled through interviewing the parents.

Results: Febrile seizure was detected in 7 cases of the patient group (0.9%) versus 18 cases (2.3%) of the control group. The frequency of febrile seizure in the controls was 2.5 times more than that in the thalassemia group, which was statistically significant (P < 0.05).

Conclusion: This study showed a lower rate of febrile convulsion in thalassemic patients compared to the control group. Accordingly, it could be suggested that high iron storage is a protective factor against febrile convulsion.

Keywords: seizure, febrile, thalassemia, convulsion