

Transfusion transmitted infections in frequently transfused thalassemic children living in Fayoum Governorate, Egypt: Current prevalence and risk factors.

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### Abstract

Regular blood transfusion therapy remains the primary treatment in thalassemia major (TM). Transfusion-transmitted infections (TTIs) and iron overload are considered to be the major drawbacks of this therapy. This cross-sectional study aimed to update the prevalence of the hepatitis C virus (HCV) antibody, PCR-confirmed HCV, hepatitis B surface antigen (HBsAg), and human immunodeficiency virus (HIV) antibody among TM children. Clinical and epidemiological factors that can affect HCV infection prevalence rate were studied. This study evaluated 121 children with TM, including 61 males and 60 females with a mean age of  $7.99 \pm 3.57$  years. Patients were evaluated for the HCV, HBsAg, and HIV-1 & 2 antibodies. All tests were performed using ELISA. HCV positive cases were confirmed by RT-PCR. Twenty-five patients were positive for the HCV antibody (20.7%); 22 were confirmed positive by PCR. Six patients (5%) were HBsAg-positive. No patients were HIV-positive. Older age were associated with an increased frequency of HCV positive infection ( $P < 0.003$ ). More frequent transfusion,  $\geq 10$  times/year were reported as predictors of HCV infection ( $P = 0.018$  and  $0.011$ , respectively). A significant association of HCV between HBV infections was reported ( $P$  value = 0.01). There was no significant effect of the pre-transfusion or post-transfusion hemoglobin level on the frequency of HCV positive cases. HCV still represents a major health challenge for frequently transfused Egyptian patients. The prevalence rate of HBV infection remains relatively high. Therefore, it is necessary to implement measures to improve blood transfusion screening.