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Hepatic and renal status of paediatric patients with thalassaemia

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Introduction

Thalassaemia is a chronic disorder affecting many organ systems. Although cirrhosis is a well-recognised complication, sub-clinical hepatic and renal dysfunction in thalassaemia are poorly studied.

Objectives

We aimed to describe the hepatic and renal status and dysfunction of paediatric patients with thalassaemia.

Methods

A cross-sectional descriptive study was conducted at Kurunegala and Ragama Thalassaemia Centres during February and March 2023. All patients aged less than 16 years attending the thalassaemia centres were recruited. Data were collected using a data collection form by interviewing parents and perusal of clinical records and analysed using SPSS 27.0. Ethical approval was obtained from the Sri Lanka College of Paediatricians.

Results

Sixty-five patients (mean age-7.7; males-46%) were recruited. Of them 48(73%) had homozygous beta-thalassaemia and 17(26%) had HbE thalassaemia; 52(80%) were transfusion-dependent and 13(20%) were non-transfusion-dependent. Hepatomegaly and splenomegaly were found in 45(69%) and 30(46%), respectively. Regarding hepatic status, 34(52%) had high (>40IU/L) alanine transaminases, of which 8(12%) had >3-fold elevation of alanine transaminases. A higher proportion of children with HbE thalassaemia (71%) had elevated alanine transaminases compared to homozygous beta-thalassaemia (46%, $\chi 2=3.0$, $p=0.07$). Also, a higher proportion of children on deferasirox (57%) had elevated alanine transaminases compared to those who were not on the drug (27%, $\chi 2=3.3$, $p=0.06$). Four (5%) had <2+ proteinuria in urinalysis however, the urine protein: creatine ratio was normal in all.

Conclusion

High alanine transaminases were noted in over 50% of paediatric patients with thalassaemia. HbE thalassaemia type and use of deferasirox were associated with high alanine transaminase levels.

Key words: *Thalassaemia, Alanine transaminase, Deferasirox*