

Introduction

In the β thalassaemias oxidative stress is potentially high and this could be further exacerbated in the absence of robust antioxidant defences, such as nutritional vitamin C and E deficiencies. We undertook a comprehensive assessment of oxidant, antioxidant and inflammatory status in patients with subtypes of β -thalassaemia to study these factors in detail.

Methods

Consenting patients attending the thalassaemia centre in Ragama, (between November 2017 and June 2018) were assessed for the following: methaemoglobin, plasma haemoglobin, heme and ferritin as sources of oxidants, plasma haptoglobin, hemopexin and vitamins C and E as markers of antioxidants, plasma interleukin-6 and C-reactive protein for inflammation. Fruit and vegetable intake was determined by dietary recall.

Results

162 patients were recruited. (59 HbE β -thalassaemia, 50 β -thalassaemia major, 40 β -thalassaemia intermedia, 13 HbS β -thalassaemia. Median age was 26.0 years (IQR 15.3-38.8), 101 (62.3%) were female. Oxidants were frequently increased and antioxidants depleted with high levels of oxidant damage, hypoxia and inflammation. Abnormalities were most severe in HbE- β thalassaemia and least severe in β thalassaemia intermedia. Oxidative stress was also more severe in splenectomised patients. Plasma vitamin C concentration was below the lower level of quantitation in 86/160 (53.8%) patients and vitamin E in 130/160 (81.3%) patients. Less than 15% of patients ate fresh fruits or raw vegetables frequently.

Conclusion

Markedly increased oxidative stress and antioxidant deficiency were observed in this study group, especially in those with HbE β -thalassaemia. Vitamin C & E supplementation may have a role in the long-term management of thalassaemia syndromes.

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Factors contributing to control of asthma in a cohort of patients receiving treatment at a Teaching Hospital

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Introduction and Objectives

The aim was to determine the association between asthma control assessed by the newly developed patient reported outcome measures (PROM) and appropriate use of inhaled corticosteroids (ICS), inhalation technique and adherence in a cohort of patients receiving treatment at Teaching Hospital-Jaffna.

Methods

This is part of a large study. Data were collected from a cohort of 1118 patients with asthma on inhaled medications using pre-tested interviewer-administered questionnaires. Asthma control was determined by PROM developed during phase-1. Appropriate use of ICS was assessed by four indicators namely: using >1 medicine in the same pharmacological class, starting oral steroids without using maximum dose of ICS, using inhaled short acting beta2-agonist (SABA) ≥ 4 /week without using ICS and using SABA ≥ 4 /week while on same dose of ICS. Negative response to all four indicators was considered as appropriate use of ICS. An investigator developed a checklist that was used to assess the inhaler technique. Positive response to all the steps was considered as correct inhaler technique. Medium-high adherence was determined using Morisky-Medication-Adherence-Scale. Chi-square was used to determine the association.

Results

Mean age was 61.9 years (SD \pm 12.05) with female: male ratio of 3:1. Asthma was under control in 74%: appropriate use of ICS, correct inhalation technique and medium-high adherence were significantly higher ($p < 0.001$) in these patients compared to patients with uncontrolled asthma (89.3% vs 3.1%, 88.9% vs 3.1% and 93.9% vs 61% respectively).

Conclusion

The newly developed PROM for asthma control successfully identified the three important factors contributing to asthma control.