

Case Report

Chronic compensated iron deficiency anaemia in a 12-year-old cerebral palsy child

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ABSTRACT

A 12-year-old male child, known case of cerebral palsy (CP), presented as a case of severe anaemia with congestive heart failure to the paediatric casualty. The child was worked up for the same and investigations revealed chronic compensated iron deficiency anaemia. The child was treated with blood transfusions, anti-heart failure medications and was discharged on oral iron. Special care and follow up are required for the nutritional needs of CP children as often they are neglected leading to catastrophic presentations.

Keywords: Chronic compensated anaemia, Iron deficiency anaemia, Cerebral palsy child

INTRODUCTION

Iron deficiency is a common cause of anaemia in children and adolescents.¹ Anaemia is defined as haemoglobin level less than two standard deviations for the mean for age and gender.² Anaemia evaluation in a child should begin with thorough history and clinical examination.² Iron deficiency anaemia is a global health problem which leads to worsening of child's quality of life and more grave prognostic implications in children with chronic diseases.³ The underlying cause of iron deficiency anaemia is due to either an increased loss or decreased intestinal absorption.³ Serum ferritin is considered as the most efficient test for the diagnosis of iron deficiency anaemia.¹ Iron deficiency is diagnosed by low serum ferritin or low transferrin saturation with an elevated total iron binding capacity (TIBC).⁴ Oral iron is the main therapy for iron deficiency anaemia.⁴ In children iron deficiency anaemia cause more serious complications compared to adults with a negative impact on functional and motor abilities.⁵ Children with anaemia have a lower motor function scores and strength when compared to children with no anaemia.⁵ CP is a neurodevelopmental

disorder with a wide range of underlying causes and abnormalities of tone and motor skills.⁶ CP occurs due to injury to the developing brain.⁶ CP children need special care for nutrition and physical rehabilitation and otherwise can lead to serious complications.⁶

CASE REPORT

A 12-year-old male child, known case of CP, presented as a case of severe anaemia with congestive heart failure to the paediatric casualty. The child was stabilised with anti-heart failure medications and investigations were sent for work up. The reports were quite surprising. The relevant reports were: haemoglobin-1.8 g/dl, TIBC-608 mcg/dl and ferritin-3 ng/ml.

Peripheral smear-microcytic hypochromic red blood cells with anisopoikilocytosis and pencil shaped cells.

It was diagnosed as a chronic compensated iron deficiency anaemia. Three packed red transfusions were given and child was discharged on oral iron supplements. Nutritional advice was given and parents were advised to bring the child for regular monthly follow up.

DISCUSSION

Children with cerebral palsy and other chronic diseases require special nutritional care and rehabilitation. Here in the index case, the child had severe chronic iron deficiency anaemia which leads to congestive heart failure. The iron deficiency anaemia was initially compensated which made the parents unaware that the child's nutritional needs were inadequate.

There were multiple studies which showed high chance of iron deficiency anaemia in children with cerebral palsy.⁶⁻⁸ Hence more importance should be given to the nutritional rehabilitation of cerebral palsy children as the cause of their iron deficiency anaemia is insufficient needs, which is very much preventable. A diet chart can be prepared and given to parents of cerebral palsy children to ensure adequate caloric requirement. Prevention of iron deficiency anaemia in such children were also found to provide better neuro developmental outcome. An observational study by Gulati *et al* in children affected with cerebral palsy concluded that children with anaemia have a lower motor function scores and strength when compared to children with no anaemia.⁶

CONCLUSION

There should be high index of suspicion of iron deficiency anaemia in children with CP. Nutritional rehabilitation and ensuring adequate dietary requirements are as important as physical rehabilitation in CP children. Hence iron deficiency anaemia and associated complications in children with CP is preventable.

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