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Chronic Pediculosis – A Blind Spot in the Management of Iron Deficiency Anaemia

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ABSTRACT: Pediculosis capitis is common in children and they survive on blood from host. This chronic blood loss can lead to severe anemia in children. We report a 11 year old girl who presented with progressive fatiguability and exertional dyspnea for 5 days. There was a past medical history of visits to dermatologists for lice infestation. Physical examination revealed marked pallor, tachycardia, ESM with raised JVP. Examination of scalp revealed numerous visible nits. Investigations done showed severe anemia with a Hb of 2.3g% and peripheral smear showed microcytic hypochromic picture. Investigations done to rule out the common etiologies of anemia were normal. Child was transfused with 2 units of pRBCs and repeat hemoglobin was 7.3g% . Child was treated with 1% permethrin and discharged with oral iron supplements. We hereby conclude that chronic pediculosis could be a cause of severe iron deficiency anemia in the absence of other contributing factors of anemia.

KEYWORDS:pediculosis, lice, anaemia

I. INTRODUCTION

Head lice infection or pediculosis capitis is common in pediatric population. These ectoparasites primarily survives on blood from the host organisms. This chronic blood loss during feeding could lead to anemia especially in a case of chronic pediculosis(1). Transmission occurs by direct head to head contact with an infected individual. The infection can be asymptomatic or can involve irritability, insomnia and pruritis in children (2). A literature review based on PUBMED search showed a handful of cases in literature. Severe iron deficiency anemia following chronic pediculosis was more common in high risk children and children belonging to low socioeconomic status (3).

II. CASE REPORT

A 11 year old female presented to casualty with loss of appetite for 10 days and chronic progressive fatigability and exertional dyspnea for 5 days. There was no h/o melena, hematochezia, hemoptysis, weight loss or anorexia. She has not attained menarche. Her past medical history was significant for multiple visits to dermatologists for lice infestation and was treated with topical medications.

Physical examination of the child showed marked pallor, tachycardia, ejection systolic murmur and a raised JVP. Examination of the abdomen was done and there was no tenderness or hepatomegaly. Examination of the scalp revealed chronic pediculosis infestation with visible nits. Her height and weight were appropriate for her age. Laboratory studies done showed a Hb- 2.3g/dl, MCV- 49.3, MCH- 12.4, MCHC-25.2, WBC-6400 , Platelets-3,78,000. Peripheral blood smear showed microcytic hypochromic anemia. Stool for ova, cysts and occult blood was negative.

A diagnosis of severe iron deficiency anemia with congestive cardiac failure was made. Dietary history of the child showed sufficient calorie and protein intake and the other common etiologies of iron deficiency anemia were ruled out. The most likely cause of iron deficiency anemia in this child was considered to be chronic pediculosis. In view of severe iron deficiency anemia with failure, child was transfused with packed red blood cells . Coagulation profile was sent and was reported to be normal. Iron studies were sent and was normal. Repeat Hb done was 4.3 g% and child was transfused with one more unit of packed red blood cells. Repeat hemoglobin value was 7.3g% and was started on oral iron supplements(ferrous sulphate). Repeat hemoglobin after transfusion increased to 6.2g%. She was treated with 1% permethrin solution and oral ivermectin was given.

III. FOLLOW UP:

The child was discharged with a hemoglobin value of 7.2% and was advised to take iron and folic acid supplements and was instructed to return to outpatient clinic in one month. She was followed up and there were marked changes in her activity and her social behavior compared to her previous visits. She has been taking iron and folic acid supplements on a regular basis and her school performance has also improved.

IV. DISCUSSION

Iron deficiency anemia is common in young females and chronic blood loss due to gastrointestinal or menstrual bleeding is the most common cause(4). Our child presented with severe iron deficiency anemia but her history and lab investigations did not find an underlying cause for anemia. Physical examination revealed heavy and chronic head lice infestation. Hence iron deficiency anemia is believed to occur secondary to chronic blood loss and since the infestation is severe and chronic, this can be attributed to a drop in hemoglobin which led to features of congestive cardiac failure(5).

Guss et al published a case series of 5 patients with signs and symptoms of anemia with head or body lice. These patients were investigated for all possible causes of anemia and hence concluded that severe head lice infestation was the cause for anemia(6).

The population at risk for iron deficiency anemia due to pediculosis include children, patients with known psychiatric disorder and with low socioeconomic status (7).

According to previous studies, one adult female louse feeds 3 to 5 times a day and the organism can suck 0.0001579ml per feed which leads to approximately 21 ml of blood per month. Hence chronic infestation over many years can lead to significant blood loss leading to clinically significant anemia (8). Other factors contributing to development of severe anemia can be stress or malnutrition but our child had an acceptable body weight and no features of malnutrition. The various treatment options used include permethrin, malathion, lindane and pyrethrins. Undertreatment with these compounds can lead to resistance of the drug. Lindane has a potential adverse effect of neurotoxicity and hence should be used with caution(9).

Other factors contributing to development of severe anemia could be malnutrition but our child's nutrition and anthropometry were within normal limits. Hence we conclude that chronic pediculosis could be the cause of severe iron deficiency anemia in a child in the absence of other contributing factors to anemia.

V. CONCLUSION

This report describes the importance of examination of a child from head to toe to rule out latent infections. It also emphasizes the need to consider pediculosis as a cause of iron deficiency anaemia in a child in the absence of other contributing factors of anemia.

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