



Case Report / Olgu sunumu

Association of Iron Deficiency Anemia and Eating Clove in an 8-Year-Old Girl: A Rare Case Report

8 Yaşında Bir Kız Çocuğunda Demir Eksikliği Anemisi ve Karanfil Yeme Birlikteliği: Nadir Bir Olgu Sunumu

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Abstract

Iron-deficiency anemia is the most common nutrient disorder worldwide. It is defined pica as eating non-nutritive, non-food substances over a period of at least one month. Different types of pica have been reported in the literature. Although the exact etiology of pica is unknown, pica has been related to iron and other mineral/nutritional deficiencies. Although a relationship between iron-deficiency anemia and pica has been reported in the literature, no such association has been reported with eating clove so far. Therefore, I present the case of an 8-year-old girl diagnosed with iron-deficiency anemia with clove pica.

Keywords: Anemia, child, clove, iron deficiency, pica

INTRODUCTION

It is defined pica as eating non-nutritive, non-food substances over a period of at least one month. Additionally, the behavior must not be in keeping with the child's developmental stage and must not be socially normative or culturally acceptable behavior.^[1] Although the exact etiology of pica is unknown, pica has been related to iron and other mineral/nutritional deficiencies dysfunctional eating patterns obsessive-compulsive disorder and psychosocial stressors.^[2]

Iron-deficiency anemia (IDA) is the most common nutrient disorder worldwide. Early identification and treatment is important because the damage attributed to periods of IDA in children is irreversible despite treatment.^[3] Clove has been used for centuries as an analgesic for toothache.^[4] Although a relationship between IDA and pica has been

Öz

Demir eksikliği anemisi dünya çapında en yaygın beslenme bozukluğudur. Pika, besleyici olmayan, gıda dışı maddelerin en az bir aylık bir süre boyunca tüketilmesi olarak tanımlanır. Literatürde farklı pika türleri bildirilmiştir. Pika'nın kesin etiyolojisi bilinmemekle birlikte, pika demir ve diğer mineral/besin eksiklikleri ile ilişkilendirilmiştir. Literatürde demir eksikliği anemisi ile pika arasında bir ilişki bildirilmiş olmasına rağmen, şimdye kadar karanfil yemek ile böyle bir ilişki bildirilmemiştir. Bu nedenle, karanfil pikası ile demir eksikliği anemisi tanısı konulan 8 yaşında bir kız olgusunu sunmaktayım.

Anahtar Kelimeler: Anemi, çocuk, karanfil, demir eksikliği, pika

reported in the literature, no such association has been reported with eating clove so far. Therefore, I present the case of an 8-year-old girl diagnosed with IDA with clove pica.

CASE

An previously healthy 8-year-old girl was sent to general pediatric outpatient clinic before the multiple dental filling procedure under general anesthesia from the dentistry department. Medical history revealed chronic toothache due multiple tooth decay for the last 3 months. Since anemia was found in routine hemogram, pica was asked in the anamnesis. Personal history revealed that the patient had eaten more than 30 cloves per day after chewing them thoroughly for the last two months. In



her anamnesis, it was learned that she initially put clove on her teeth to relieve toothache, and then she began to eat them. Neurodevelopmental steps were normal. The socioeconomic status of her family was lower. There was no family history of hereditary hemoglobinopathies. Since the patient had a history of eating clove, further investigations were performed. On physical examination, the skin and mucous membranes were pale. On admission, weight: 25 kg (50 percentile), height: 125 cm (25-50 percentile) and vital signs were normal. Cardiac, abdominal, and neurologic exams were normal. The patient underwent biochemical and hematological testing to screen for possible nutritional deficiencies which could have explained her pica. Hemoglobin was found to be 7.4 g/dl (normal:12-16), hematocrit – 24.8% (normal:35-49), White Blood Cells – 8.73 cells/ μ l (normal:4-12), platelets – 374,000/ μ l (normal:150-350,000), MCV – 59.1 fl (normal:80-100), MCH-17.6 pg (normal:27-34), MCHC-29.8 g/dl (normal:31-37), RDW-17.9% (normal:11-16), RBC 4.19×10^6 / μ l (normal: $3.5-5.2 \times 10^6$). Iron studies revealed an iron level of 9 μ g/dl (normal:37-145), serum iron binding capacity - 478 μ g/dl (normal:110-370), serum ferritin level – 1.7 μ g/l (normal:14.5-290). Examination of her blood smear revealed anisocytosis and hypochromia Serum B12 level was 703 ng/l (normal:195-961). The renal functions and liver enzymes were all within normal limits. After hemogram and iron tests, the patient was diagnosed with IDA. Oral iron(II)-glycine-sulphate-complex treatment was started at a dose of 5 mg/kg/day. On follow up two weeks later, she reported her pica resolved. Control hemogram was as follows. Hemoglobin was found to be 10.5 g/dl, hematocrit – 33.9%, White Blood Cells – 8.73 cells/ μ l, platelets – 285,000/ μ l, MCV – 69.5 fl, MCH-21.6 pg, MCHC-31.1 g/dl and RBC 4.88×10^6 / μ l. A significant increase in hemoglobin value was observed with treatment for IDA. Iron treatment was planned to continue for 3 months. The patient's dental treatment was carried out by the dentistry. The general pediatric outpatient follow-up of the patient continues.

DISCUSSION

The meta-analysis examining micronutrient status and pica noted a strong association between pica and anaemia.^[5] In the literature, it is recommended to make full-blood picture and iron studies in all children with pica and treat any nutritional deficiencies identified.^[1] In the present case, due to the detection of anemia during routine hemogram, it was asked whether there was pica and detailed iron studies were performed. Thus, it was learned that there was a clove pica, which has never been reported before in the literature. In the present case, a diagnosis of clove pica and IDA was made by anamnesis, physical examination and laboratory examinations. Two weeks after iron treatment, signs of pica disappeared. The present case has shown that all children should be questioned in terms of pica when taking anamnesis.

In literature, it was stated that the physical examination was mostly normal in children with pica.^[6] Some children with pica may appear undernourished, exhibit developmental delay, or experience abdominal distress or pain if large quantities of indigestible constituents are consumed. Pallor, if present, suggests anemia which may result from iron deficiency.^[7] In the present case, physical examination was normal, except for pallor of the skin and mucous membranes.

Considering the possible complications of the substance taken in the anamnesis and examination, it should be acted upon.^[1] In the present case, there was no adverse event or complication detected other than IDA accompanying pica.

There has been clay, raw starch, ice, raw, raw potatoes, hair, fibrous plant roots, paint chips, sand, pebbles/stones, sharp objects, glass, uncooked rice, paper, soap, burned matches, feces, vomitus, wooden materials, sponge, polyurethane foam, grass, leaves, paper, chalk, baby talcum powder, crayons, pencil erasers, cigarette butts, ashes, charcoal, coins, buttons, cloth, eggshells and insects among the different types of pica.^[7]

The efficacy of iron supplementation in eliminating pica associated with iron deficiency states is well-recognised.^[8] In the present case, the patient who was diagnosed with IDA with a similar approach was successfully treated.

CONCLUSION

I believe this is the first case of a pediatric patient with IDA accounting for her clove eating pica in the literature so far. Pediatricians should inquire about pica in every pediatric patient's anamnesis during follow-up of healthy children.

ETHICAL CONSIDERATIONS

Informed Consent: Written informed consent was obtained from all participants who participated in this study.

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