

Original article

Pattern, beliefs associated with Pica in children aged 1-10 years- A study of 119 cases

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Abstract:

Introduction: Pica is defined as repeated or chronic ingestion of non nutritive substances, which may include plaster, clay, charcoal, paper, ashes, earth etc⁽¹⁾. Although mouthing of objects is considered normal in infants and toddlers, pica after the age of two years needs investigation.

Material and methods : The outdoor of department of pediatrics caters to the needs of about 25 children per day. A total of 768 children visited the OPD services during the study period of November 2013- March 2014, out of which 502 children were aged greater than two years. Among these children mothers, attendants of 119 children reported that the child was having Pica. Attendants of all the 119 children were given a pre designed proforma. The Proforma was designed in English but was translated to hindi for attendants and mothers not understanding English.

Results: In Majority of children consuming mud was the commonest form of pica. Mothers of 62 (49%) children thought that child was deficient in some nutrient, leading to child consuming non nutritive items. Mothers of 53 children (44%) thought that giving calcium injections is the treatment.

Mothers of 37(31.2%) children consented to having blood investigations done for the child. A complete blood count along with a peripheral blood film was sent. The peripheral blood film was seen by a pathologist while the complete blood count was done on Trans asia three part analyzer. Hb of less than 10.5 gm/dl, MCV less than 75 fl and pbf suggestive of microcytic, hypo chromic picture were taken as markers for iron deficiency anemia.

Conclusion: To conclude pica is quite common in children, the treatment of this malady lies in counseling the parents, enforcement of correct behavior and treating the underlying nutrient deficiencies.

Introduction

Pica is defined as repeated or chronic ingestion of non nutritive substances, which may include plaster, clay, charcoal, paper, ashes, earth etc⁽¹⁾. Although mouthing of objects is considered normal in infants and toddlers, pica after the age of two years needs investigation. Pica is not a disease or disorder but an interaction that results from interaction between various biological and environmental factors. The

term Pica comes from latin from Magpie a bird known for its indiscriminate eating habits ⁽²⁾. Children with Pica are at increased risk of anemia, lead poisoning and parasitic infections⁽¹⁾. Though the exact etiology of Pica is unknown many studies have demonstrated deficiencies of various minerals in children with pica^(3,4,5,6).

Material and methods

The outdoor of department of pediatrics caters to the needs of about 25 children per day. A total of 768 children visited the OPD services during the study period of November 2013- March 2014, out of which 502 children were aged greater than two years. Among these children mothers, attendants of 119 children reported that the child was having Pica. Attendants of all the 119 children were given a pre designed proforma. The Proforma was designed in

English but was translated to hindi for attendants and mothers not understanding English. Detailed history and general physical examination, systemic examination was done for each case. Since routine investigations like a complete blood count are done free of cost at our institution, all children having anemia were advised a complete blood count. Mothers of 37 children agreed to get a blood count being done for the child.

Table 1- Proforma

S.No	Content
1.	Name of Patient
2.	Age group a. 2-5 years b.6-10 years (tick whichever is applicable)
3.	Sex: a. Male b.Female (tick whichever is applicable)
4.	Development: a. Normal b. Delayed
5.	What item does the child consume? a. Mud b. Plaster c. Chalk d. Paper e. Paint f. Rubber
6.	What do you think is the reason for your child's behavior?
7.	Do you think there is any treatment for such a condition?

Results

Out of a total of 119 children 70 were male and 39 were female, majority of children were in the age group of 2-5 years.

Table-2 Age, sex wise distribution of patients

S.No	2-5 years(males)	2-5 years(females)	6-10 years(males)	6-10 years(females)
1.	53	30	17	19

Table-3 Items consumed by children

S.No	Item consumed	No. of children
1.	Mud	57
2.	Plaster	22
3	Chalk	12
4.	Paper	09
5.	Paint	09

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blood count along with a peripheral blood film was sent. The peripheral blood film was seen by a pathologist while the complete blood count was done on Trans asia three part analyzer. Hb of less than 10.5 gm/dl, MCV less than 75 fl and pbf suggestive of microcytic, hypo chromic picture were taken as markers for iron deficiency anemia.

Table 4- Hematological characteristics of 37 Patients

S.No	No of Pts in age group 2-5 years	No. of Pts in age group 6-10 years	No. of Pts with anemia in age group 2-5 years	No of Pts with anemia in age group 6-10 years
1.	20	17	16	13

Discussion

There is no exact reason as to why children develop the habit of Pica. Poor socio economic status, maternal deprivation, deficiency of micronutrients like iron and calcium, are some of the reasons as to why children develop pica. Research has demonstrated high prevalence of iron deficiency anemia in patients with pica^(3,4,5,6). Studies have

reported deficiencies of calcium, b complex and vitamins in patients with pica^(4,5,6). In our study 30 out of 37 children (81%) were suffering from iron deficiency. The most common item consumed was mud by 57 children; the high incidence of mud consumption could be attributed to it being the most easily available item. Islek et al have reported rapunzel syndrome in a child with iron deficiency

anemia and pica⁽⁷⁾. Singhi et al have demonstrated low levels of iron and zinc in children with pica⁽⁶⁾. The various complications described with pica are parasitic infections, trichobezoar, life threatening hypokalemia, lead poisoning^(8,9,10). Lead poisoning is common in children with habit of consuming paint. One interesting aspect of our study was mothers believing calcium injections could cure pica. This could be attributed to the wide spread unscrupulous practice of giving calcium injections as remedy for mud eating.

There is no definite treatment plan for pica. Treatment consists of counseling of parents with special emphasis on positive behaviour reinforcement, deworming the child, correction of underlying nutrient deficiency. Medical and surgical emergencies like lead poisoning, intestinal obstruction should be managed accordingly.

Conclusion:

To conclude pica is quite common in children, the treatment of this malady lies in counseling the parents, enforcement of correct behavior and treating the underlying nutrient deficiencies.

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