

Clinical Profile of Pica in Childhood

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Abstract

The various aspects of clinical profile in 200 children (18 months to 10 years) with pica have been highlighted. There was a definite male predominance and majority of children belonged to 2–4 year age group. Direct history of pica was given by 32 % mothers. Cough, pain abdomen, poor appetite, increasing pallor, abdominal fullness etc were other presenting features. Clay, sand, mud, plaster, uncooked rice, paper, clothes etc were material used for pica. Intestinal parasites were quite common.

Key Words

Pica, Cough, Clay

Introduction

Pica is an eating disorder typically defined as the persistent eating of non nutritive substances for a period of at least one month at an age in which the behavior is developed mentally in appropriate (>18–24 month) (5). The definition occasionally is broadened to include the mouthing of non-nutritive substances. Children presenting with pica have been reported to mouth or ingest a wide variety of non nutritive substances including but not limited to clay, dirt, sand, stones, pebbles, hair, faeces, lead, laundry starch, plastic, pencil erasers, ice, fingernails, paper, paint, chips, coal, chalk, wood, plaster, burnt matches etc (2-5). Pica has been shown to be the predisposing factor in accidental ingestion of poisons. The ingestion of bizarre or unusual substances also have been resulted in many potentially threatening toxicities such as gastrointestinal, including mechanical bowel problems, ulcerations, recurrent chest infections, anemia etc(2-5). There is paucity of literature regarding the clinical profile of pica in this part of country, hence the study was undertaken to observe the various aspects of clinical profile of pica in Jammu.

Material and Methods

This prospective study was undertaken at a pediatric clinic from May 2003 to April 2004. Two hundred children (18 months to 10 years) visiting pediatric clinic with direct or indirect history of pica were enrolled for the study. These children were compared to that of 100 non-pica children aged 2 to 10 years. Children with mental subnormality were excluded from the study. The mothers were interviewed in depth regarding type of family, educational and working status and type of feeding. They were asked for presenting complaints. General physical, systemic examination and simple routine investigations were done. The material used for pica was asked. Health education was imparted to each mother.

Results

There was a definite male predominance (M: F- 1.5: 1). The majority (64 %) of children belonged to 2-4 year age group as shown in (Table 1). About 32 % mothers gave direct history of pica. The presenting complains were cough (30 %), pain abdomen (34 %), poor appetite (26 %), increasing pallor (19%), diarrhea off and on (17%), vomiting (12%), abdominal fullness

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(11%), generalized weakness (8 %), passage of worms in stool (7 %), etc as shown in table no. 2. About 82 % of parents had education status up to higher secondary. The pica was observed more in children of working mothers as compared to house wives. Pica was seen more in bottle-fed children as compared to breast-fed. Family history for pica was positive in 44% children. The type of material used for pica is shown in (Table 3). Forty six percent children had poor nutritional status. Intestinal parasites were identified in 63 % of pica children as compared to 18 % in controls. Giardia lamblia, ascariasis, trichuris etc were common parasites in their stools. Initial hemoglobin levels were less than 8 gms/dl in 34.5 % and 11 gms /dl or greater in 20 % of pica children compared with 12 % and 56 % respectively in control for children.

Table 1. Age and sex wise distribution of subjects

Age (in months)	Sex		Total	%age
	Male	Female		
12-24	12	10	22	11
25-36	40	25	65	32.5
37-48	43	28	71	35.5
49-60	13	9	22	11
>60	12	8	20	10
Total	120	80	200	100

Table 2. Presenting Complaints in Children

Presenting complaints	Male	Female	Total	%age
Pica (direct history)	41	23	64	32
Pica (Indirect history)				
Cough	43	33	76	38
Pain abdomen	41	27	68	34
Poor Appetite	30	22	52	26
Increasing Pallor	23	15	38	19
Diarrhoea off and on	20	14	34	17
Vomiting	16	8	24	12
Generalized Weakness	10	6	16	8

Table 3. Type of material used for pica

Material	Male	Female	Total
Clay/sand/mud/plaster	67	39	106
Uncooked rice	42	28	70
Papers	29	13	42
Clothes	22	16	38
Uncooked vegetables/dal	1713	30	
Rubber/Pencil lead/chalk	1511	26	

Discussion

Although pica is observed most frequently in children, it is most common eating disorder in individual with developmental disabilities (1-5). In some societies pica is a culturally sanctioned practice and is not considered to be pathological (2). Pica may be benign or it may be associated with life threatening complications. Prevalence of pica is unknown because the disorder often is unrecognized and under reported. Although prevalence rates vary depending on the definition of pica, the characteristics of population sample and the methods used for data collection, pica is reported most commonly in children. Pica occurs throughout the world. The male to female ratio was 1.5: 1 almost as similar in other studies (6,7). Majority of children (64%) were less than 4 years in contrast to 71%-85% in other studies (6-8). Family history was positive in 44% cases in our study in accordance with other studies (6,8). Geophagia is the most common form of pica in people who live in poverty, tropics and tribe oriented societies. In some countries, Uganda for example, soil is available for purchase for purpose of ingestion. In our study clay was the material used by 53% children. Clay was the material used by 92% children as reported by Robinson et al (6). Intestinal parasites were identified in 63% of pica cases, whereas 70.3% has been reported in other studies (6,8). The parasites included giardia lamblia, ascariasis, trichuris species etc. Initial hemoglobin values less than 8 gm % in 34.5% children were almost similar as reported in one of the studies (6). No differences were observed between the pica children and the anemic children without the pica habits in term of anamnestic, clinical and biological data in other studies (6,9).

Although the etiology of pica is unknown, numerous hypotheses have been advanced to explain the phenomenon, ranging from psychosocial causes of purely bio chemical origin. Cultural socioeconomic, organic and psychodynamic factor have been implicated (1-5). Firm empirical data supporting any of nutritional deficiency etiological hypotheses are absent. Deficiencies in iron, calcium, zinc and other nutrients (thiamine, niacin, vitamins B and C) have been associated with pica (2,3,5) in some children with malnutrition. Whether the iron deficiency

prompted the eating of clay or the inhibition of iron absorption caused by the ingestion of clay produced the iron deficiency is not known. Treatment with iron supplements led to cessation of pica in most children (2-4). Material deprivation, parental separation, parent neglect, child abuse and insufficient amount of parent/child have been associated with pica (2-5). This was interaction not seen in our study.

Lead toxicity is the most common poisoning associated with pica (2,10). Blood lead levels were not estimated in our study due to lack of facility. It should be suspected in children who take paint, pencil lead, plaster, or use surma. Physical manifestations of lead poisoning include neurological (irritability, ataxia in coordination, headache, cranial nerves paralysis papilledema, encephalopathy, seizures coma etc) and gastro intestinal (constipation, abdominal pain, colic, vomiting, anorexia, diarrhea etc) some children may pull their own hair (trichotillomania) and swallow them. Lot of hair may be collected in the stomach which becomes palpable as a big lump in the upper abdominal (trichobezoar) particularly after meals (3).

Pica is quite common in childhood. The short family size, the working mothers, bottle-feeding are major contributing factors resulting in pica. The children who practise pica are prone to malnutrition, anemia, diarrhea, constipation and worm infestation. Geophagia is most

frequently involved and there is often a family history of pica.

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