

Pathophysiology and Management of Pica

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Summary

Pica is a medical disorder in which a person is attracted toward nonfood stuff. Human being may have pica at any stage of life but it is mostly related to young children and pregnant women. Children are attracted toward soil, paints; pencil chewing, clay and insects. Adults may attract toward paper, glue, soap. In Humans Pica may be result of malnutrition or under nutrition or serious kind of starvation. Deficiency of many minerals like calcium, zinc, phosphorus or iron and nutrients like thiamin, niacin and vitamins C and D is directly related to pica. Therapy is the initial and most effective way of treating of pica patient. Some medication may helpful in reducing abnormal eating.

Keywords: Celiac disease, Autism, Malnutrition or under nutrition, Dopamine system, Behavior- based treatment, Serotonin-specific reuptake inhibitor, Papilledema.

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Introduction

Pica is a rare kind of medical disorder in which a person is habitual to eat non food items. This disorder is usually misunderstood and neglected. Usually children are victim of this disorder. They unintentionally eat harmful substance which may cause much serious kind of problems. Pica may be because of many factors. These may be internal or external. It may be because of emotional imbalance, hormonal problems or may be because of social customs and religious believes. Pica patient can be recovered in many ways. The most effective one is therapy. Behavior based treatment can also be used to treat such patients. Negative image of the substance is created in the eye of the patient. This is also an effective way. Sometimes doctors and physicians face some kind of problems in treating the patient. These problems are usually created by the patient. Usually patient denies the presence of pica when questioned. Pica is not a prolonging disease it persists only in certain ages or conditions. Pica is a Latin word for magpie meaning “a bird of uncontrolled hunger, which can burst to eat almost everything.”

Pica is a medical disorder in which a person is attracted toward nonfood stuff. It is not a disease but a medical disorder found in children, pregnant women and some animals who feel hunger to eat different things like soap, plaster, paints, buttons, clay, hair, cigarette, pencil chewing, chalk, paper, gum and coal, etc. They may also be compelled by their appetite to eat some food items in their raw form like starch, flour, potatoes, rice, salt, peas, corn starch etc.

However pica is now considered as mental disorder by DSM-IV (Diagnostic and Statistical Manual of Mental Disorders).

Human being may have pica at any stage of life but it is mostly related to young children and pregnant women. It may be due to certain type of mental retardations, social factors etc. Pica is usually misunderstood and little talked by common people and they did not pay full attention toward this disorder usually take it easy and ignores.

The pica sufferer continuously craves to eat nonfood stuff or nonnutritive stuff.

Individual have Pica feel uncontrolled appetite and urge to eat nonfood items. Inappropriate behavior is shown by the patient; this behavior is not a part of social, daily and cultural practices. Pica can equally effect people of all ages and genders but usually common in young children and pregnant women. The raw food or nonfood stuff, toward which a pica afflicted person is usually attracted, depends upon the age of the person. e.g. children are attracted toward soil, paints, pencil chewing, clay and insects. Adults may attract toward paper, glue, soap, ashes, charcoal, nails or detergents.

ETIOLOGY

In Humans Pica may be result of malnutrition or under nutrition or serious kind of starvation. Deficiency of many minerals like calcium, zinc, phosphorus or iron and nutrients like thiamin, niacin⁽¹⁾ and vitamins C and D is directly related to pica.

In some clay eating patient deficiency of iron has been diagnosed but it is unclear that whether the deficiency of iron induces clay eating or Pica causes an inability of the body to absorb iron.

Sometimes in females due to CELIAC disease⁽²⁾ (a disease in which small intestine damages and start interfering with the absorption of food) iron deficiency occurs which induces pica.

Developmental delays can also be a reason of pica. In mentally disable patient pica is caused because the individual is unable to differentiate between food and nonfood stuff.

Pica may be because of some kind of mental disorder like AUTISM⁽³⁾ in which a person is unable to communicate with the surrounding in normal manner.

It may also because of some social customs and superstition⁽⁴⁾. Sometimes clay and soil eating is acceptable by various social groups. This kind of practice is common in African American communities, usually among children and women.

It may be because of stress that may be a result of depression⁽⁵⁾, child abuse⁽⁶⁾, child neglect, family problem, parental separation and improper communication of parents and child.

Sometimes obsessive compulsive disorder ⁽⁷⁾, in which a person suffers from anxiety and perform certain offensive repetitive actions, can induce pica.

Sometimes due to decreased activity of dopamine system, pica is induced; it also causes decreased dopaminergic neurotransmission ⁽⁸⁾.

Other factors that cause pica are some kind of family disorganization, Environmental deprivation can also be a cause of this. Epilepsy⁽⁹⁾ can also aggravate pica. Brain damage, pregnancy, parent/child psychopathology and anemia are the other factors causing pica.

In animals, like dogs, pica is due to immune mediated hemolytic anemia (a disease in which body RBCs are destroyed by its own immune system). ⁽¹⁰⁾

MANAGEMENT

As pica results from different internal and external factors, its treatment varies accordingly to the category of the patient. Treatment may be:

- Therapy
- Medication
- Psychological management

Therapy

Therapy is the initial and most effective way of treating of pica patient.

Sometimes pica cause emotional disorder ⁽¹¹⁾ which can be controlled just by addressing the patient. Patient progress can also b increased by family care, group attention or marital counseling. Guidance, overcorrection, teaching can help in controlling pica in all kind of patients having pica.

Medication

Some medication may helpful in reducing abnormal eating urge by enhancing dopaminergic functioning but in some cases of mental or developmental disorder, medication may enhance pica.

Psychological Management

In these cases behavior- based treatment ⁽¹²⁾ can be useful. This can be done by creating a negative image of the harmful substance in the mind of pica sufferer, discrimination training between edible and non edible stuff and visual screening with eyes. For a pica patient of psychotic etiology, therapy and medication like SSIRs (serotonin-specific reuptake inhibitor) a class of compounds usually used for the patients of anxiety, depression or personality disorder ⁽¹³⁾ has been used very successfully. But such type of treatment should not be used until the non-etologies have been ruled out. Patients of pica are usually treated as outpatients.

Problems In Treatment of Pica

- Sometimes behavioral problems cause hindrance in the treatment of pica. Patients hesitate to report this problem which creates a difficulty in correct diagnosis of this rare but serious disease.

- Late report of pica can also cause problem.
- Ignorance of the problem usually causes lots of problems in treatment of pica. Pica is actually misunderstood. The parents or the relative persons don't pay attention toward the patient which causes an increment of this disease.
- Sometimes patient deny the presence of pica when questioned.
- Many personal problems like maternal deprivation, parental ignorance, may cause hindrance in the treatment

EFFECTS OF PICA ON HUMAN HEALTH

Pica is a serious kind of medical disorder that can be a reason to aggravate many other kind of pathological disorders. The severity of the problem that can be caused as a result of eating harmful substance is related to the nature of the substance that has been eaten. Like: sometimes patient comes in contact with lead containing substances⁽¹⁴⁾ like paints and varnishes. These paints and varnishes can cause serious harm to brain from lead poisoning⁽¹⁵⁾. Lead intake⁽¹⁶⁾ can also cause neurological problems, anxiety, continuous pain in head and eyes region, cranial nerve paralysis and coma, lethargy, incoordination, papilledema and can also cause death. Some substances directly cause harm to gastrointestinal tract and can cause constipation, ulceration⁽¹⁷⁾, obstruction, nausea, abdominal distention and loss of appetite. Pica can cause infection and parasitic infestation. Toxocariasis and Ascariasis⁽¹⁸⁾ are the two common diseases that can be resulted due to soil eating. It can cause hookworm infection. It can also cause dental abnormalities including severe tooth abrasion, abfraction and surface tooth loss and mouth cancer.

Fortunately pica is not a prolonging disorder. It persists only in certain age or conditions like pregnancy. But for patients having mental disorder or retardation pica is prolonged concern.

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