

A Different Pica Type “Pagophagia” in Adult

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ABSTRACT Pica is defined as 'the persistent eating of non nutritive substances without an association with an aversion to food'. Pagophagia is particular from of pica characterized by ingestion of ice, freezer frost or iced drinks. It often associated with iron or calcium deficiency. There is limited information about pagophagia. Only few cases of pagophagia have been reported. The causes of pagophagia, risk factor, the relationship between mental disorders and treatment are not fully known. A 37 year old woman who had complaints of obsessive compulsive disorder and pagophagia was presented in this case report. Taking notice of items about diagnosing and treating in this kind of patients are discussed in this case report.

Keywords: Pica; eating disorders; obsessive compulsive disorder

Pica is a behavior disorder characterized with regularly overeating a type of food or substance which has no nutritive value.¹ Pica which takes place in the section of nutrition and eating disorders in DSM-5 can be seen in any societies and age groups especially during infancy.² This mysterious and attracting case studied for centuries is named after a bird, pica, known as eating almost everything. Pica means magpie in Latin.³ The reason for pica keeps uncertainty. Updated data cause to think pica has various reasons. The society which the person lives in, age, sex, religion culture, genetic and social factors and nutrition affect pica. The most accepted explanation is nutritious theory which connects pica to mineral deficiency such as zinc and iron. Various pica types such as eating newspaper, soil, coal, napkin, paint, etc. have been defined so far.^{3,4} The information related to pagophagia, a type of pica, which is eating solid ice is limited. The oldest known pagophagia case is Byzantine Emperor Theophilus (813-842), who died of dysentery. It was reported that the emperor who often ate snow and ice had the symptoms of gastric inflammation and was unhappy because of gastro intestinal symptoms and therefore, he could not command his armies well and lost wars.⁵ The relationship between pagophagia and psychological disorders was not studied even though there are studies searching the relationship between pagophagia and iron deficiency and gastrointestinal system diseases.⁶⁻⁸ Widely sampled studies related to the treatment, clinical presentation and etiology of pagophagia are required. A 37 year old female patient who had pagophagia, which does not take place as a different diagnosis in DSM-5 categories is presented with psychiatric story and background information of the patient and the treatment protocol was applied to her.

CASE REPORT

Mrs. A.A is 37 years old, a housewife and from Rize. She has three children. She still lives in the same city with her husband and children.

She willingly applied to our clinic with the complaints of suspicions, over cleaning, punctiliousness, dispiritedness and short temper. The patient said that she had been rigorous and tidy from of old but her over cleaning started nearly three years ago when her daughter had meningitis. After her daughter's doctor said that her daughter's immune system was weak and she had to be in clean and tidy places, she began over cleaning and increased it gradually. She also added she did cleaning for 3 or 4 hours every day and cleaned even clean parts in the house. She also reported that she could not eat anything in somebody else's house and did not want to put up guests in her house. She did not her children play out with the worry that they could get dirty and catch infection. If the children went out, she would make them have a long bath. The patient who saw her neighbors very often and had pleasure to put up them in her house began not to go out. At the same period the patient started to perform prayer. The complaint of thinking troubling things and not being sure during her prayer had increased much until she applied to our clinic. While was performing her prayer, she was thinking that her three and half years old daughter could have troubling experiences such as opening the door to a stranger and falling out of the window. Due to these thoughts she often interrupted her prayer. Even though the patient found these thoughts very nonsense and meaningless later, she couldn't stop thinking them. Ice eating habit of the patient started when she was 25 or 26. She started to eat ice instead of ice-cream when she was alone at home. At first she ate ice only in summer time but later she began to eat it during winter. On the other hand recently she has been feeling the need of eating 2 or 3 (finger thick flat layer) bars of ice. She enjoyed when she broke the bars and the eyes looked like glass pieces. She took pleasure from the crunchy sound emerged while eating ice pieces and getting numb tongue. Even though she was warned

by her husband and her immediate vicinity that this habit could damage her health, she could not stop eating ice. She ignored the disorder in her teeth because of ice eating. She said that she prepared the ice she consumed daily in special ice-boxes every day and could not stand spending a day without eating ice. The consumption of daily solid ice quantity of the patient who delayed her work and preferred to eat ice when there was nobody at home increased in the last days. Also, dispiritedness, intolerance were added to her complaints and she decided to apply to the psychiatry clinic.

Background and Family History: The patient was born, by normal delivery, as the second child of a four-children family. Her mother is 65 years old, alive, healthy, literate, rigorous, tidy and a housewife. Her father who was a driver died five years ago due to lung cancer when he was at the age of 67. She had no problem during her growth and ageing. She left school when she was in her second year at high school. She got married to her husband out of love at the age of 22. Her husband is 48 years old and works as an officer is in a tea factory. She has three children, two of whom are daughters and one is son. She has had no serious health problem until recently and there is no neurologic and psychiatric disease story in her family.

Physical Examination and Laboratory Findings:

Vital Findings: Normal. Neurologic and other system examinations are normal. It was seen during the examination that there are apparent deformations in the front teeth in maxilla and submaxilla of the patient. By receiving the approval and permission of the patient, the mouth and teeth structure of the patient was photographed to observe the course of the treatment and to use it scientifically. (Figures 1, 2). Thyroid function tests, prolactin, vitamin B12 and folic acid values are normal. EEG and brain MRG were evaluated as normal.

Laboratory Findings: Hemogram and biochemical values are normal.

Psychiatric Examination: The female patient who looks her age and whose dressing is matching with her socioeconomic level can make eye contact and self-care is moderate. Her speaking is clear, flu-

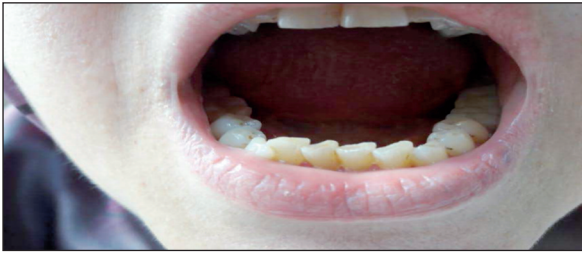


FIGURE 1: Deformation after pagophagia in tooth structure of the case.



FIGURE 2: Post-pagophagia deformity of the upper and lower anterior teeth of the patient.

ent, understandable, purposive and having short sentences in normal volume. Her mood was slightly depressed. Any pathological findings are not observed in perceiving, intelligence level, memory, the skill of evaluating the reality and judgment. Her association of ideas are neat. She had polluted stream of thoughts, tidiness, symmetry and religious obsessions and eating ice habit. Her expressive behaviors and self-respect have decreased.

Psychometric Evaluation: She got 32 points in Yale Brown Obsession Compulsion Scale (Y-BOCS) and 17 points in Hamilton Depression Evaluation Scale when taking especially pollution, tidiness, symmetry, religious obsessions, cleaning, and repeating compulsions into consideration.

Fluoxetine 20 mg/day treatment was started for the patient with the diagnosis of pica (pagophagia) and obsessive compulsive disorder according to DSM-5 as the result of psychiatric evolution. The case had depressive symptoms and findings in the level which could not meet DSM-5 diagnosis criterion. The dose of fluoxetine was gradually increased up to the 40 mg/day and aripiprazole 10 mg/day was added in the eighth week of the treatment to strengthen the treatment. The patient's family was informed about the treatment and the

situation of the patient who had cognitive behavioral therapy. In the sixth week of the patient who still had cognitive behavioral therapy it was reported that obsessive thoughts and eating ice decreased, depressive symptoms were lost, the communication between her, her husband and their children improved and she began to come together with her neighbors more often.

DISCUSSION

Pica which has been observed since ancient times, it is a mysterious and attractive case. Eating and chewing behaviors in pica thought to be related to iron deficiency anemia in the studies which have been carried out so far were reported to get lost after iron fortifier.⁶⁻⁸ Even though there are some hypotheses related to physiological mechanisms explaining the etiology of pica, any agreement could not be reached because pica is affected by age, sex, religion, culture, stress and mental development.^{1,3}

Also, some characteristics different from classic pica symptoms can be observed in pica subtypes. This may be possibly related to changes in the culture and technologic developments. For example, pagophagia defined as ice eating has been more observed with the use of deep freezers, ice bars and defrosters and the easiness of reaching ice and icy drinks in the last years.

In the previous studies nutritional deficiency such as iron and zinc deficiency was put forward as well, any nutritional deficiency was not found in the pica cases which had the habit of eating ice, rubber, and foam type.⁹ Other theories can be psychosocial problems such as family problems, anxiety, depressive symptoms, and obsessive compulsive disorder.^{8,9} However the psychological aspect of pica was not searched sufficiently. It was reported in literature that a 42 year old female case who had no iron or calcium deficiency and began to eat ice bars recovered from her complaints after fluoxetine 40 mg/day treatment.¹⁰ Similarly in this study a female case whose biochemical and hemogram values are normal and who is suggested to use fluoxetine 40 mg/day treatment is presented. It is remarkable that suggested treatment doses are similar to those of obsessive compulsive disorder

treatment. The symptoms of unendurable ice eating desires, impulses and actions of the cases who have pagophagia are similar to those of obsessive compulsive disorder. Also, the fact that high rate obsessive compulsive disorder was observed in the cases diagnosed with pica or pagophagia support this relation. Similarly the fact that our case has obsessive compulsive disorder diagnosis and depressive symptoms is in accordance with those results. It is remarkable in our study that depressive symptoms and pagophagia action of the case have increased in the last 2 or 3 months. Also, it was defined after the psychometric evaluation of the patient's detailed story that the patient has cleaning and religious obsession and compulsive behaviors like washing. It was reported in the studies that pagophagia is seen in women.^{4,11} The fact that the case in our study is a woman is consistent to these results. Especially, it was reported that pagophagia is often seen in pregnant women who have iron deficiency.¹² The information about pagophagia in men is not clear. The average early age of the disease is defined as late adolescence or early twenties.⁴ The fact that the disease started at the age of twenties in our case supports this. Most patients reported that they felt increasing tension, an uncontrolled wish and an irresistible desire before the action and they could remove this only by eating ice.⁴ Nevertheless, most of the patients find their thoughts and wishes disturbing and they try to resist. The fact that the patient in our case the patient accepted negative results of the disease and stated that she could not control the disease despite teeth disorders and warnings from her family coincide with those findings. As psychodynamic pagophagia may function in the form of negative feelings like narcissistic harm, psychological addiction, disappointment, anger, shame and hopelessness, hollow feeling, abasement, feeling of inadequacy or defending and compensation mechanism against some phenomena. With the action an individual avoid of the awareness of those feelings and ensure these feelings to lie snug. The patient benefits from this action which enables her to decrease the tension and organize her feelings. Stopping doing the action can be quite difficult because of the anxiety it will make the patient experience. When the life

story of our case is searched, it is similarly seen that she is exposed to stress especially after her child's disease and often has negative feelings such as inadequacy, insignificance and guilt. Pagophagia can be said to cause an effect similar to that of an antidepressant to reduce negative feelings. The studies related to psychiatric treatment of pagophagia are limited. Most of the studies done so far are case report. It was reported that selective serotonin reuptake antidepressants such as fluoxetine and citalopram enable significant improvement in the doses in obsessive compulsive disorder treatment.^{10,13,14} The patient's treatment has been arranged fluoxetine 40 mg/day and aripiprazole 10 mg/day. It is also reported that as well as psychopharmacologic treatment, various psychotherapeutic treatments are also used in pica treatment.¹⁵ Especially, Cognitive Behavioral Therapy (CBT) can help those patients to overcome pagophagia. Patients learn different ways to resist inner impulsive or external stimulating things. In the study applications aimed at providing stimulating and impulse control are presented in the way of CBT.

As a result, it is necessary that the reason, clinical presentation, the relationship between other psychological disorders and treatment approaches of pagophagia which affect life quality negatively must be searched. In this study a female patient who applied to our clinic with the complaints of obsessive compulsive disorder and has had pagophagia for many years is presented in the light of literature data and the case is evaluated as adult age group beginning pagophagia. Studying the relationship between pagophagia and psychological signs makes the case interesting.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or

members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions:

This study is entirely author's own work and no other author contribution.

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