

Ryzophagia secondary to polycystic ovarian syndrome (PCOS) - related menorrhagia

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SUMMARY

We report the peculiar case of a patient who consumed raw rice daily and had iron-deficiency anaemia secondary to menorrhagia with underlying polycystic ovarian syndrome. A 32-year-old lady of Asian descent presented with symptoms of fatigue, lethargy and prolonged, irregular periods for the last two months. There was noticeable increase in body weight, male pattern alopecia and facial acne. In addition, she experienced sudden, unexplained predilection towards consumption of raw rice (up to 300-400g/day). The patient was treated with oral iron and cyclical progestin. After three weeks, her haemoglobin improved and her ryzophagia subsided. Gynaecologists should be vigilant of pica, which can occur outside of the context of pregnancy and also poses potential health risks including tooth attrition, electrolyte imbalance, intestinal obstruction and poisoning.

INTRODUCTION

Anaemia commonly manifests with fatigue, pallor and palpitations. Occasionally, the presentation can be in the form of pica and even include signs such as spoon-shaped nails and bluish discoloration of the sclera. Pica is a general term referring to the craving and consumption of edible or non-edible substances caused by psychological disorders, pregnancy or anaemia.¹ Often associated with iron-deficiency anaemia, pica is an intriguing symptom recognized for centuries yet its pathophysiology remains obscure.² Raw rice consumption (ryzophagia) could be a common but infrequently reported manifestation of iron-deficiency anaemia in countries where rice is a major dietary staple.¹ We describe a patient who consumed large amounts of raw rice and had iron-deficiency anaemia secondary to menstrual losses from polycystic ovarian syndrome.

CASE PRESENTATION

A 32-year-old multiparous lady of Asian ethnic descent with a history of polycystic ovarian syndrome presented with symptoms of fatigue, lethargy and prolonged, irregular periods for the last two months. She had noticed an increase in body weight, male pattern alopecia as well as facial acne. Furthermore, she gave a history of sudden predilection for consuming raw rice (up to 300-400g) on a daily basis, apart from her two regular meals. The patient did not have any underlying medical co-morbidities. On examination, she appeared pale and her BMI was 40.5 kg/m². Ultrasonography revealed a uterus of normal size (7.83 x 3.93 x 5.38 cm),

normal endometrial thickness and polycystic ovaries. The patient had some tooth attrition on the lower incisors and loss of the canine tooth architecture (Figure 1). Laboratory investigations were consistent with severe iron-deficiency anaemia. Haemoglobin (Hb) was 7.9 g/dL (range 11.5-16.0), mean corpuscular volume (MCV) 52 fL (range 76-103) and mean cell haemoglobin (MCH) 14 pg (range 26-34). Iron studies showed low serum iron 2.5 umol/L (range 6.6-26.0), 3% iron saturation (range 15-50), low ferritin 4.6 ng/mL (range 14.0-233.1), with elevated total iron binding capacity (TIBC) 86 umol/L (range 49-77) and unsaturated iron binding capacity (UIBC) 83 umol/L (range 40-62). After 3 weeks of oral iron treatment with Iberet-Folic-500® (Abbott), her Hb increased to 9.8 g/dl with MCV, MCHC increasing accordingly. Cyclical progestin therapy was prescribed to regulate her menses and further reduce menstrual blood loss. She had also stopped ingestion of raw rice.

DISCUSSION

Patients with pica have unexplained craving and compulsive consumption of variegated non-food items ranging from earth (geophagy), ice (pagophagy), raw starch (amylophagy), ash, charcoal to even, chalk. It can be found in almost a third of women during pregnancy and puerperium and is also common in children.^{3,4} To our knowledge, ryzophagia in non-pregnant Asian women residing within the continent has not been reported before. In fact, most cases of pica reported outside of pregnancy involved patients whom have migrated beyond their ancestral continent. The literature contained two cases of Asian women with pica for uncooked basmati rice who were residing in United States of America (USA) at the time of diagnosis.¹ It is plausible that this condition remains under reported in Asia, where rice is readily available the prevalence of iron deficiency is high.¹

Indeed, the patient's husband did not feel that her behavior was odd. This may be due to the acceptance of certain cravings and consumption of non-edible substances, which are influenced by gastronomic traditions and cultural values.⁴ Consuming small quantities of raw rice is practiced in rituals during harvest festival in certain countries. The impact of tradition or culture is also reflected in geophagia, strongly-linked with infertility and reproductive health in Kenya and Nigeria.⁴

The patient's urge for consumption of raw rice resolved following correction of iron-deficiency anaemia from heavy

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Fig. 1: Tooth attrition on the lower incisors and canines. This was a result of repetitive grinding and chewing of hard, raw rice.

menstrual bleeding. The observation that pica is associated with iron-deficiency anaemia and that the behaviour disappears upon iron supplementation is beyond current medical cognisance.⁵ Case reports have detailed cessation of pica following iron administration but two randomized, double-blinded studies in children did not achieve a similar conclusion.⁴ To add to the confusion, humans practicing pica have not shown to experience iron-specific cravings and many individuals without iron deficiency or anaemia engage in pica.⁴

Nonetheless, pica is a pertinent symptom that should not be dismissed and instead, prompt the gynaecologist to consider severe iron-deficiency anaemia from menorrhagia. Furthermore, pica poses significant health risks including

susceptibility to electrolyte and metabolic disorders, intestinal obstruction, tooth attrition and poisoning. If undetected, patients may suffer from emotional and psychological ramifications including depression. Treatment is aimed at preventing additional blood loss, addressing the source of bleeding and correcting iron-deficiency anaemia.

We report this particular case to remind healthcare providers of the importance of pica symptoms associated with iron deficiency. This condition may not be as common as in pregnancy or childhood but is attributable, in part, to the lack of recognition by the uninitiated. Gynecologists should be vigilant and be wary of this symptom. Patients with iron-deficiency anaemia from heavy menstrual bleeding should be asked about pica.

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