

Complications Of Pica: Case Report And Review Of Literature

J Gulia, S Yadav, K Rattan, A Hooda

Citation

J Gulia, S Yadav, K Rattan, A Hooda. *Complications Of Pica: Case Report And Review Of Literature*. The Internet Journal of Head and Neck Surgery. 2007 Volume 2 Number 2.

Abstract

Pica is an eating disorder in which a person repeatedly eats non-food items, a pattern, lasting for at least a month. Although it is a common disorder, however at times pica is detected only after developing some complications like gastrointestinal obstruction. It can result in intoxication, quadriplegia, rhabdomyolysis and also in death. Authors report a case of pica with total esophageal obstruction. The complications associated with pica are reviewed.

INTRODUCTION

Pica is an eating disorder typically defined as the persistent eating or mouthing of non-nutritive substances. It affects infants, children, mentally retarded persons and sometimes even adults¹. The true incidence of pica is not known but it is estimated to be 75% in infants, 15% in two-three year old toddlers and 10-33% among the institutionalized mentally retarded children². Pica may accompany a developmental disorder. Pica can occur during pregnancy or at the time of breast-feeding. Sometimes pica is recognized only when it results in a complication like the present case.

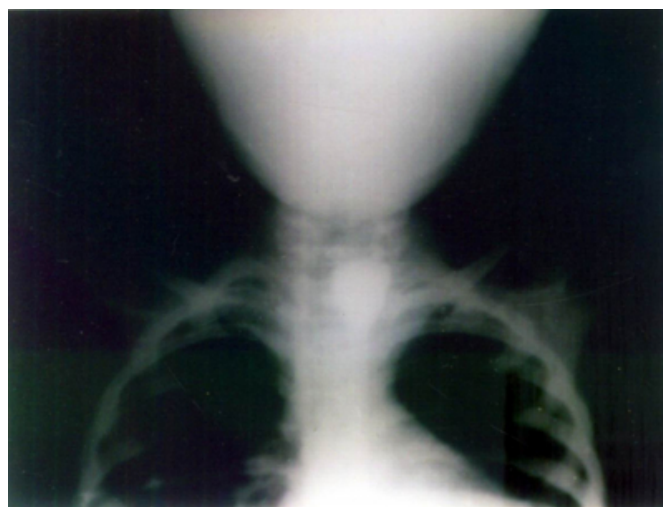
CASE REPORT

A girl child aged 6 years presented in the emergency service with a history of ingestion of a stone about 8 hours ago. She complained of pain in the neck, inability to swallow, drooling of saliva and vomiting. Past history revealed history of eating clay and sand.

On general physical examination the patient was anemic, conscious and well oriented. Oral, dental, respiratory and cardiovascular system examination was normal. Her Hb was 5 gms. X-ray chest with neck PA view revealed a radio-opaque shadow of size about 2.5 x 3.5 cm impacted in the esophagus just below the crico-pharyngeal sphincter (Fig 1).

Figure 1

Figure 1: X-ray soft tissue neck with chest PA view showing radio-opaque shadow of size about 2.5 x 3.5 cm impacted in the esophagus just below the crico-pharyngeal sphincter



The patient was undertaken for rigid esophagoscopy under general anesthesia. A stone was visualized impacted just below the crico-pharyngeal junction surrounded in the edematous mucosa. Removal has to be deferred as it could not be grasped with any of the available forceps. A Foley's catheter extraction was also tried but it could not be passed beyond the stone. The patient was put on broad spectrum intra-venous antibiotics. Two days later the patient was again taken up for rigid esophagoscopy under general anesthesia but it again failed. The patient was then planned for esophagotomy on the forth day of admission, when a check x-ray revealed that it has moved down to the level of diaphragm (Fig 2).

Figure 2

Figure 2: X-ray chest with upper abdomen AP view showing stone at the level of diaphragm.



A conservative approach was then maintained and the stone was expelled by natural intestinal movements on the third day. Patient was discharged on hematinics.

DISCUSSION

Pica, the compulsive eating of non-food items, has been reported as early as 40 B.C. Pica in children and pregnant women, has been addressed in medical books as far back as 1563 and was frequently observed in the Southern United States in the 1800s³. Pica is described as persistent eating of non-nutritive substances for a period of at least one month. It is considered normal for children less than two years old to put anything in their mouth. After this age, eating non-food items is thought to be abnormal. The cause of pica is unknown but multi-factorial etiology is suggested. Some causes include iron deficiency, psychological factors like: poverty, maternal neglect and abuse, lack of parental supervision, disorganized family situation, mental retardation, autism and brain behavior disorders like Kleine-Levin syndrome^{1,2,4}. In a recent survey of urban slums 31% of children with anemia had pica⁵.

The various non-food forms include amylophagia (laundry starch, corn starch) geophagia (clay, sand, dirt), lithophagia (Stones, gravel, pebbles), pagophagia (ice), trichophagia (hair), and coprophagia (faeces)⁶.

The term pica comes from the Latin for magpie, an allusion to the bird's omnivorous feeding habits⁷. It is most frequently seen in small children, pregnant women, and individuals with learning disabilities and patients with chronic renal failure⁸. It has been observed in 20% of pregnant women⁹.

Pica can reemerge following gastric bypass surgery for obesity. Kushner reported two cases of women who experienced a recurrence of pagophagia following gastric bypass surgery¹⁰.

Pica can result from abrasive tooth wear¹¹ to serious medical sequelae depending on the nature and amount of the substance ingested. The most common toxicity is the lead poisoning from substances contained within the soil or other sources such as lead-based paints⁴. Other toxicities include hypokalemia^{12,13} and can result in acute flaccid quadriplegia¹⁴. Hypokalemia can also be associated with metabolic alkalosis and rhabdomyolysis in pregnancy¹⁵. Mercury poisoning can occur from paper pica¹⁶. Mihailidou et al reported a case of accidental intoxication from a poisonous houseplant called *Colocasia esculenta* also known as elephant ear in a 2 year old boy with a history of pica¹⁷.

Soil or clay ingestion has been associated with parasitic infections such as toxoplasmosis and toxocariasis. Pica can also result in various gastrointestinal tract problems including obstructions, perforations, ulceration and constipation⁷. Allan et al described a case of gastric obstruction due to starch gastrolith resulting from the habit of starch pica in a 18 year old female¹⁸.

Pica can result in intestinal obstruction. Anderson et al reported a case of intestinal obstruction from talcum powder pica. Their review of literature found 43 previously reported cases of surgical complications caused by various forms of pica. Intestinal obstruction was the most common clinical presentation and ileum was the most often the site reported at surgery. Perforation with peritonitis was the next common presentation. The clues to pica as the underlying cause of abdominal complaints should not be neglected specially in patients who are known to be at higher risk of pica⁸.

Lohiya et al reported a case of esophageal obstruction by a

lemon that required esophagotomy in a patient with pica and Lennox Gastaut syndrome¹⁹. In our case repeated esophagoscopy failed to retrieve the stone and an esophagotomy was planned, but since the stone had moved down, a conservative approach was used.

An esophageal foreign body should be seriously considered in all non-verbal patients, children and mentally retarded patients with pica, which suddenly refuse oral intake. For suspected esophageal foreign bodies, emergent esophagoscopy deserves prompt consideration because it allows simultaneous diagnosis and removal²⁰. Empiric dysphagia tests, such as barium swallow or swallowing evaluation are not of much use. Soft-tissue neck radiographs are often used to visualize suspected foreign bodies. They may show a radio opaque object or intra-luminal air, an indirect evidence of a foreign body holding open the normally collapsed esophagus.

Pica can also result in death. McLoughlin discussed pica as the cause of death in three mentally handicapped men and suggested that pica is probably an identifiable and potentially preventable cause of early death in severely and profoundly handicapped people in institutions²¹.

In many cases pica remits with time. The use of selective serotonin reuptake inhibitors is useful. Referral for counseling and a formal mental health consultation may be warranted in patients with severe and refractory pica¹².

CORRESPONDENCE TO

Dr Joginder Singh Gulia House no.20/9J Medical Campus, Pt. B.D. Sharma PGIMS Rohtak. 124001(Haryana) Phone: 9416287404 E-mail: jsgulia@hotmail.com

References

1. Boris NW, Dalton R. Pica. In: Behrman RE, Kliegman RM, Jenson HB, editors. Nelson textbook of Pediatrics. 17th edition. New Delhi, Elsevier; 2004. p. 73-74.
2. Chatoor I. Feeding and eating disorders of infancy and early childhood. In Kaplan and Sadock's Comprehensive textbook of psychiatry. 8th edition. Philadelphia, Lippincott Williams and Wilkins; 2005. p. 3217-3227.
3. Rose EA, Porcerelli JH, Neale AV. Pica: common but commonly missed. J Am Borad Fam Pract 2000; 13: 353-58.
4. Crosby WH. Pica, a compulsion caused by iron deficiency. Br J Haematol 1976; 34: 341-342.
5. Kapur D, Agarwal KN, Sharma S. Detecting iron deficiency anemia among children (9-36 months) by implementing a screening program in an urban slum. Indian Pediatr 2002; 39: 671-76.
6. Lohn JWG, Austin RCT, Winsiet MC. Unusual causes of small-bowel obstruction. J Royal Soc Med 2000; 93: 365-368.
7. Logi DG, Regenye GR, Miles M. Pica and iron deficiency anemia: a case report. J Oral Maxillofacial Surg 1992; 50: 633-635.
8. Anderson JE, Akmal M, Kittur DS. Surgical complications of pica: report of a case of intestinal obstruction and review of the literature. Am Surg 1991; 57: 663-667.
9. Horner RD, Lackey CJ, Kolasa K, Warren K. Pica practices of pregnant women. J Am Diet Assoc 1991; 91: 34-38.
10. Kushner RF, Gleason B, Retelny VS. Reemergence of pica following gastric bypass surgery for obesity: A new presentation of an old problem. J Am Diet Assoc 2004; 104:1393-1397.
11. Baker D. Tooth wear as a result of pica. Br Dent J 2005; 199: 271-273.
12. Mengel CE, Carter WA, Horton ES. Geophagia with iron deficiency anemia and hypokalemia. Arch Intren Med 1964; 114: 27-65.
13. Gonzalez JJ, Owens W, Ungaro PC, Werk EE, Wentz PW. Clay ingestion: A rare cause of hypokalemia. Ann Int Med 1982; 97: 65-66.
14. Trivedi TH, Daga GL, Yeolekar. Geophagia Leading to hypokalemic Quadripareisis in a postpartum patient. JAPI 2005; 53: 205-207.
15. Grotegut CA, Dandolu V, Katari S, Whiteman VE, Holtzman OG, Teitelman M. Baking soda pica: A case of hypokalemic Metabolic Alkalosis and Rhabdomyolysis in pregnancy. Obstet. Gynecol 2006; 107: 484-486.
16. Olynky F, Sharpe DH. Mercury poisoning and paper pica. N Engl J Med 1982. 306: 1056-1057.
17. Mihailidou H, Galanaskis E, Paspalaki P, Borgia P, Mantzouranis E. Pica and the elephant's ear. J Child Neurol 2002; 17: 855-6.
18. Allen JD, Woodruff J. Starch gastrolith; report of a case of obstruction. N Engl J Med 1963; 268: 776-778.
19. Lohiya GH, Figueroa LT, Le HV, Rusu L. Esophageal obstruction by a lemon that required esophagotomy: Thoughts on prevention. Mental Retardation 2005; 43: 317-321.
20. Lam H, Woo J, v Hasselt CA. Management of ingested foreign bodies; a retrospective study of 5240 patients. J Laryngol Otol 2001; 115: 954-957.
21. McLoughlin IJ. Pica as a cause of death in three mentally handicapped men. Br J Psychiatry. 1988; 152: 842-845.

Author Information

Joginder Singh Gulia

Associate Professor, Department of Otolaryngology, Pt B.D. Sharma PGIMS

Samar Pal Singh Yadav

Professor, Department of Otolaryngology, Pt B.D. Sharma PGIMS

Kamal Nayan Rattan

Senior Professor, Department of Pediatric surgery, Pt B.D. Sharma PGIMS

Anita Hooda

Assistant Professor, Department of Oral Anatomy, Pt B.D. Sharma PGIMS