The THAI Journal of SURGERY 2001; 22:79-82.
Official Publication of the Royal College of Surgeons of Thailand

Gastric Outlet Obstruction Caused by Trichobezoar

Rangsan Niramis, MD
Sukawat Watanatittan, MD, FACS
Department of Surgery, Queen Sirikit National Institute of Child Health (Children's Hospital), Department of Medical Service, Ministry of Public Health, Bangkok 10400, Thailand.

Abstract

Objective : **The aim of this study was to report a rare case with a trichobezoar in the stomach.**

Materials and Methods : **A 5-year-old girl developed abdominal pain with non-bilious vomiting about 3 days before admission. A round mass was palpable at the epigastrium. Past history indicated that she habitually swallowed her own hair during the previous 3 years. After complete radiological investigations had been done, surgical laparotomy was performed and revealed a large hairball in the stomach and this mass obstructed the pyloric canal. The bezoar was removed through a gastrotomy. The stomach was closed in two layers. Postoperative course was uneventful. Since then, she completely stopped eating her hair.**

Conclusion : **This report was an unusual foreign body impaction in the stomach. Recurrence of this phenomenon has never been reported because the operation is probably traumatic enough to stop hair ingestion.**

Bezoar is a term used to describe a concretion of foreign body in various characters found in the stomach and in the intestine on rare occasions. This term is derived from the Arabic word "Bedzehr", the Persian word "Padzahr", the Turkish word "Panzehr" or the Hebrian word "Beluzaar", which all mean protection against poison or counter poison or antidote.[1,2] Most bezoars are the results of ingestion of undigestible organic materials such as hair (trichobezoar), fruit and vegetable fibers (phytobezoar), a combination of hair and vegetable (trichophytobezoar), milk-curd concretion (lactobezoar) and medication impaction (medication bezoar).[1-5] Bezoars also can be concretions of tar, shellac, sand or resin.[6] Trichobezoar is commonly seen in the stomach and occasionally seen in the intestine. We reported herein a case of trichobezoar with complication of gastric outlet obstruction found at our institute.

Case Report

A 5-year-old girl was admitted to the hospital on July 25, 2000. Her complaints included intermittent abdominal pain, epigastric distension and non-bilious vomiting for 3 days before admission. Her parents gave her some antacids but the symptoms were not relieved. The patient was a kindergarten pupil and she was a single daughter in the family. Her parents told that she liked to pull up and swallow her hair since she was 2 years old. Sometimes, she passed stool composing of hair.

Physical examination revealed normal nutritional

status, normal hair distribution and normal colour of conjunctivae. The abdomen had epigastric distension. A mobile non-tender mass, oval in shape, was palpable in the epigastrium and the left hypochondrium (Figure 1). Rectal examination revealed normal stool and no rectal mass. During the physical examination, non-bilious vomiting including food particles occurred and the epigastric distension reduced. Complete blood count (CBC) and urine analysis were within normal limit. Abdominal x-ray showed normal intestinal gas pattern without a definite mass. Ultrasonography revealed hyperechoic area with acoustic shadowing like bowel contents at the epigastric area. Upper gastrointestinal (UGI) series demonstrated a large intragastric mass which occupied most of the gastric lumen (Figure 2). Normal gastric mucosa was seen. Delayed passage time from the pylorus to the duodenal bulb was detected and narrowing of the pyloric canal was also noted. After 30 minutes, barium was found to pass into the duodenum. The C-loop was widening with thickening of the duodenal folds. The duodenojejunal junction and the small intestine were in normal position.

The patient was treated by surgical removal of the foreign body on the day following admission. A midline laparotomy revealed dilatation of the stomach with an intragastric mass. A longitudinal anterior gastrotomy was performed. A large hairball, which occupied the whole stomach and continued into the duodenum was noted (Figure 3). After removal of the gastric bezoar, the stomach was closed in two layers. The specimen was composed of strands of hair that organized as the gastric configuration (Figure 4). The postoperative course was uneventful. The psychiatrist suggested no further treatment was needed because the operative trauma would probably be sufficient to halt the habit of hair eating. At 6-month follow-up, the patient looked well and gave up swallowing her hair.

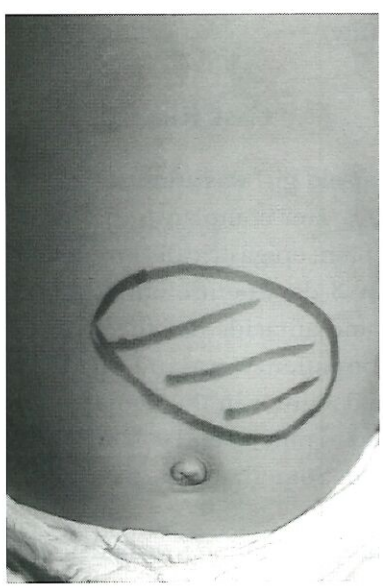

Fig. 1 An oval abdominal mass in the epigastrium.

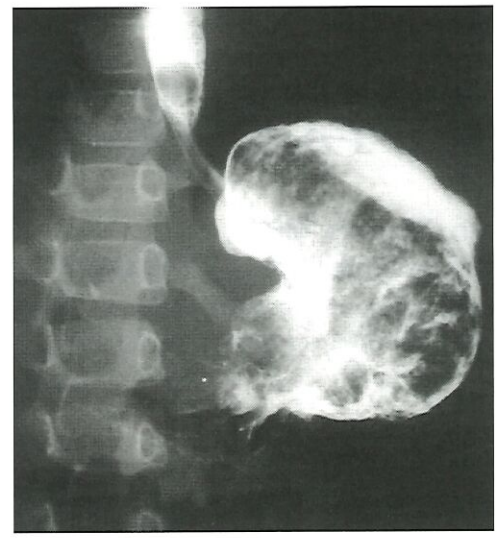

Fig. 2 A mottled intragastric mass shown by a contrast study.

Fig. 3 A hair-ball mass in the gastric lumen at operation.

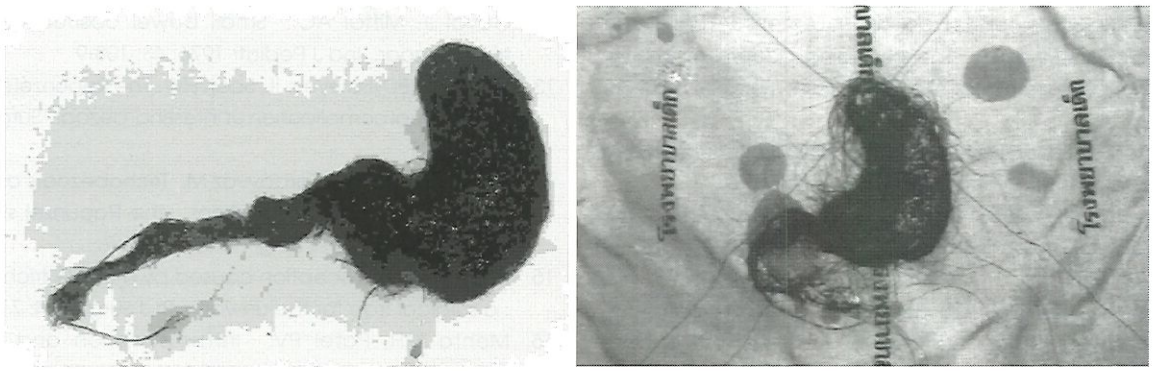

Fig. 4 Trichobezoar in a complete shape of the stomach, pylorus and duodenal bulb.

Discussion

Trichobezoars consist of hair, usually the patient's own, but they can also include other nondegradable fibers including wool, nylon and animal hair.[7] The first case of trichobezoar in the stomach was reported by Baudamant in 1779.[6]

De Bakey and Ochsner[1] succeeded in collecting 311 cases of trichobezoar in what is still considered the classic paper on this subject. More than 90 percent of the cases occurred in females under 30 years of age.[7-9] Trichobezoars are usually found in girls and young women who are emotionally unstable and aberrant appetite of hair eating (trichophagia).[10] Patients with cranionervous system abnormality, that result in gastric motility disorders, are also the victims of trichobezoars.[11]

Trichobezoars are asymptomatic until they reach a critical size. Symptoms include vague abdominal pain, anorexia, nausea, vomiting and weight loss. Hematemesis and melena due to gastric ulceration often cause anemia in advanced cases.[1,8,10] A large, solid and non-tender mass is usually palpable in the epigastrium and the left hypochondrium. Most cases have been recognized with a history of trichophagia including a composition of hair either in vomitus or in stool. An upper gastrointestinal contrast study may show a mass with shaggy edges and a mottled filling defect. This is the most satisfactory method for making correct diagnosis.[10]

The treatment of choice is operative laparotomy with gastrotomy and removal of a hairball. At the time of laparotomy, careful inspection is recommended in order to rule out possible extension of the trichobezoar into the small and large bowel.[5,12] Gastroscopy used for extraction of trichobezoar is dangerous because it may cause distal small bowel obstruciton due to a piece of hairball becoming discontinued[10] In many reports from the literature, the distal bowel obstruction caused by trichobezoars has been known as Rapunzel syndrome.[6,13,14] Rare complications including intussusception caused by multiple trichobezoar[15,16] and obstructive jaundice due to gastric trichobezoar[17] have been reported.

Operative mortality is almost zero in cases that were diagnosed and managed in time without complication. The mortality rate increases to about 20 percent in the presence of complications.[1] Patients with multiple trichobezoars may be complicated by obstructing daughter bezoars, which may lead to ulceration, necrosis, perforation, and peritonitis.[9,16,18,19]

Recurrence of this phenomenon has never been reported, althrough a certain percentage of the patients have emotional instabilities. This support the supposition that the operation is probably traumatic enough to stop hair ingestion habit.[10]

References

1. De Bakey M, Ochsner A. Bezoars and concretions. Surgery 1938; 4: 934-63 and 1939; 5: 132-60.
2. Agha FP, Nostrant TT, Fiddian-Green RG. "Giant colonic bezoar". A medication bezoar due to psyllium seed husks. Am J Gastroenterol 1984; 79: 319-21.
3. Bockus HC. Gastroenterology. 2nd ed. Philadelphia : WB Saunders; 1963. p. 869.

4. Grosfeld JL, Schreiner RL, Franken EA, Lemons JA, Ballantine TVN, Weber TR, et al. The changing pattern of gastro-intestinal bezoars in infants and children. Surgery 1980; 88: 425-32.
5. Goldstein SS, Lewis JH, Rothstein R. Intestinal obstruction due to bezoars. Am J Gastroenterol 1984; 79: 313-8.
6. Deslypere JP, Praet M, Verdonk G. An unusual case of the trichobezoar : the Rapunzel syndrome. Am J Gastroenterol 1982; 77: 467-70.
7. Hossenbocus A, Collin DG. Trichobezoar, gastric polyposis, protein losing gastro-enteropathy and steatorrhea. Gut 1973; 14: 730-2.
8. Small A, Muehlbauer M, Kleinhaus S. Obstructing giant trichobezoar involving stomach and duodenal bulb. Am J Gastroenterol 1968; 50: 297-302.
9. Sewell IR. An unusual case of perforated gastric ulcer. Aust NZJ Surg 1968; 38: 19-20.
10. Dreznik Z, Wolfstein I, Avigad I, Shalin N. Trichobezoar. Int Surg 1976; 61: 219-21.
11. Gryboski J. Gastrointestinal problem in infancy. Philadelphia: WB Saunders; 1975. p. 156-8.
12. Goyal J, Mittal AC. Small bowel obstruction due to trichobezoar. Ind J Pediatr 1976; 43: 108-9.
13. Vaughan ED, Sawyers JL, Scott HW. The Rapunzel syndrome : an unusual complication of intestinal bezoar. Surgery 1968; 63: 339-41.
14. Seker B, Dilek ON, Karaayvaz M. Trichobezoars as a cause of gastrointestinal obstructions : the Rapunzel syndrome. Acta Gastroenterol Belg 1996; 59: 166-7.
15. Rees M. Intussusception caused by multiple trichobezoars : a surgical trap for the unwary. Br J Surg 1984; 71: 721.
16. Mehta MH, Patel PV. Intussusception and intestinal perforations caused by multiple trichobezoars. J Pediatr Surg 27: 1234-5.
17. Schreiber H, Filston HC. Obstructive jaundice due to gastric trichobezoar. J Pediatr Surg 1976; 11: 103-4.
18. Rao PLNG, Kumur VV, Pathak IC, et al. Small bowel trichobezoar with obstruction and perforation. Ind Pediatr 1979; 16: 1041-2.
19. Rao PLNG, Mitra SK, Pathak IC. Trichobezoars in children. Int Surg 1981; 66: 63-5.