

A huge trichobezoar in the jejunum

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An otherwise healthy, 8-year-old girl presented with vague abdominal pain, vomiting, and a tensely distended abdomen. Abdominal ultrasonography and computed tomography demonstrated a huge amount of jejunal material, about 10 cm long, resulting in near obstruction of the jejunum. The material was removed surgically and a postoperative pathologic report confirmed that it was a trichobezoar. A postoperative consultation with a pediatric psychologist revealed neither abnormal behavioral tendencies nor overt psychopathology. After removing the trichobezoar from the jejunum, her health improved completely. We report a rare case of a huge jejunal trichobezoar in a normally developed child with no psychological problems. (*Korean J Pediatr* 2006;49:574-576)

Key Words : Jejunal trichobezoar

Introduction

Bezoars are foreign bodies in the gastrointestinal tract that increase in size with the accretion of nonabsorbable food or fibers^{1,2}. The term bezoar is derived from the Arabic "badzehr" or the Persian "padzahr", which mean an antidote to poison³. Bezoars have been classified into four types⁴: phytobezoars (caused by vegetables), trichobezoars (hair), lactobezoars (milk curds), and miscellaneous (medications, tissue papers, shellac, tar, sand, or fungus).

Trichobezoars are less common than phytobezoars, but are more frequently seen in young people and are prevalent in females⁵. In the classic review by DeBakey⁵ and Oschner, 80% of trichobezoars were found in patients younger than 30 years of age.

Because underlying emotional stress is often a factor in the trichophagia or trichotillomania seen in affected patients, psychological evaluation is essential.

Bezoars are usually confined to the stomach, but rarely dislodge and travel into the small intestine, where they can produce obstruction. We recently observed a huge trichobezoar in the jejunum resulting in near obstruction.

Case Report

An 8-year-old girl was referred to Chonnam National University Hospital (CNUH, Gwangju, Korea) with a 7-day history of vague abdominal pain and sustained bilious vomiting. On admission, she seemed acutely ill and complained of tenderness of the entire abdomen during physical examination. The rest of the general physical examination was normal, and did not reveal any hair thinning or alopecia on the scalp. She had developed normally with no psychological problems, but in early childhood developed the habit of pulling out her hairs and putting them in her mouth. Her vital signs were normal. Laboratory results showed hemoglobin 11.6 mg/dL and WBC 11,400/mm³ (66.7% neutrophils, 21.2% lymphocytes, and 11.5% monocytes). The amylase and lipase were elevated markedly to 279 and 185 U/L, respectively, while the remainder of the blood chemistry and urinalysis was normal. Plain radiographs showed mechanical ileus with dilated small bowels. Abdominal ultrasonography (US) and computed tomography (CT) revealed mechanical ileus with jejunal obstruction due to a huge amount of material, suspected of being a bezoar, measuring about 10 cm in length (Fig. 1), but showed no abnormalities in the pancreas. The material was removed surgically on the third day after admission. At laparotomy, a trichobezoar was observed measuring about 10 cm in length, with a tail extending 50 cm distal to the ligament of Treitz (Fig. 2). Microscopic examination disclosed numer-

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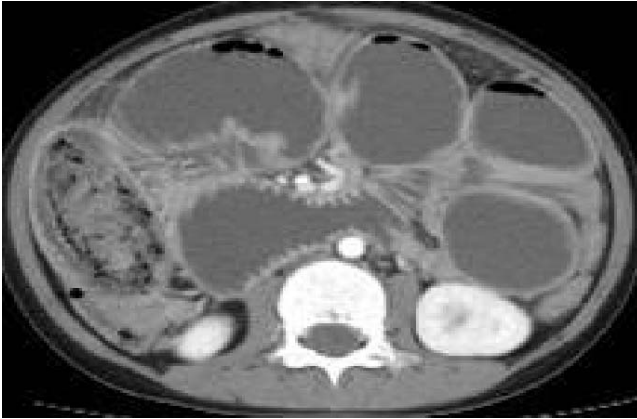


Fig. 1. Abdominal computed tomography shows mechanical ileus with jejunal obstruction due to a large bezoar measuring about 10 cm in length.



Fig. 2. Gross appearance of the trichobezoar removed from the jejunum. This bezoar with its tail measured about 10 cm in length and consisted of a large amount of entwined hairs and undigested food.

ous hairs mixed with vegetables and amorphous material (Fig. 3). After removing the trichobezoar, the elevated amylase and lipase, which were regarded as resulting from jejunal obstruction and not pancreatitis, decreased to near normal values and the patient's symptoms disappeared. A postoperative consultation with the pediatric psychiatry department disclosed no abnormal behavioral tendencies or overt psychopathology. The patient's health improved completely and she was discharged 10 days after admission.

Discussion

DeBakey and Oschner proposed that trichobezoars developed from hair trapped within the gastric folds to explain why strands of hair accumulate in the stomach⁵. With the ingestion of hair, carpeting, or clothing, fibers become trapped in the gastric mucosal folds and become

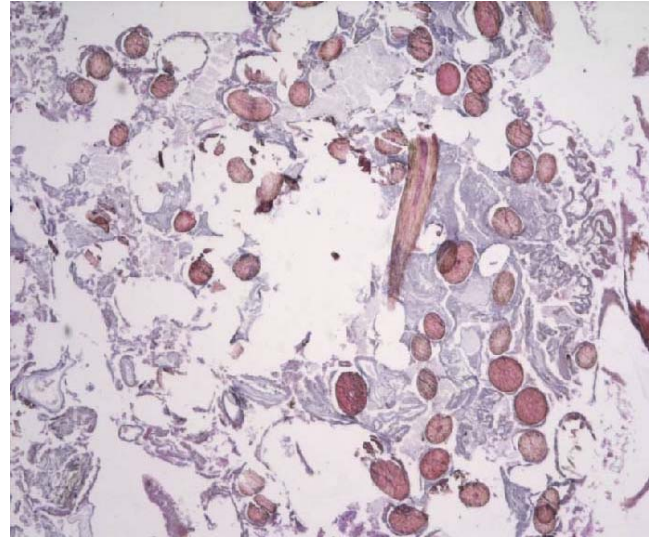


Fig. 3. Microscopic examination of the trichobezoar discloses numerous hairs mixed with vegetables and amorphous material (H&E stain; original magnification $\times 100$).

enmeshed. Trichobezoars are usually confined to the stomach, but rarely dislodge and travel into the small intestine where they can produce obstruction, as in our case.

Phytobezoars are more common than trichobezoars and consist of fruit tannins and vegetable matter. Yang⁶ reported one case of trichobezoar in the stomach but trichobezoars, especially in the jejunum are rare in Korea.

Most patients complain of symptoms that develop gradually over less than 1 month. Common complaints include abdominal pain, nausea and vomiting, hematemesis, bloating, early satiety, diarrhea or constipation, and weight loss⁷. Numerous complications are reported in trichobezoars, including anemia due to chronic blood loss from erosion or ulceration of the gastric mucosa, intestinal obstruction, perforation, peritonitis, pancreatitis, obstructive jaundice, malabsorption, protein-losing enteropathy, intussusception, and appendicitis^{8,9}. In mechanical bowel obstruction secondary to a long, fixed trichobezoar, the hyperactive peristalsis causes the bowel to be drawn up tightly on the mesenteric side of the intestine⁹⁻¹². In our patient, a huge trichobezoar in the jejunum resulted in elevation of pancreatic enzymes.

A bezoar can be diagnosed from imaging studies. The plain film of the abdomen may reveal amorphous, granular, calcified, or whirlpool-like configurations of solid and gaseous material⁸. CT is very useful, mainly in cases presenting with an abdominal mass⁹. On ultrasonography, the bezoar may be seen as an echogenic dense solid mass with "clean" sonic shadowing posteriorly⁵. Gastroscopy is

definitive in the case of gastric bezoars⁷⁾.

Therapy for any bezoar requires removal and the prevention of recurrence. Small bezoars may be amenable to nasogastric lavage or suction, and the use of prokinetic agents. However, there is no way to dissolve matted hair, and the large size of the bezoar makes endoscopic disruption or removal impossible. If feasible, the bezoar can be recovered through a single enterotomy. However, if there is evidence of mesenteric necrosis or a sealed-off perforation, multiple enterotomies are suggested to reduce tension placed on the mesenteric border when removing the mass. After the removal, a psychiatric or psychological evaluation is essential, since underlying emotional stress is often a factor in the trichophagia or trichotillomania seen in affected patients⁷⁾. Approximately 10% of patients have psychiatric abnormalities or mental retardation, while only half of patients have a history of observed trichophagia¹¹⁾. Our patient also had the habit of pulling out her hairs and putting them in her mouth in early childhood, but she had developed normally. Other factors associated with trichobezoars are the compulsive and excessive ingestion of food or non-food substances and an underlying behavioral disorder leading to pica, although this can also develop secondary to anemia^{13,14)}.

We present a rare case of a huge trichobezoar located more so in the jejunum than in the stomach, which resulted in jejunal obstruction causing elevated pancreatic enzymes. After surgical removal of the trichobezoar, the patient recovered and the pancreatic enzymes normalized. In a follow-up evaluation, the patient had neither underlying psychiatric problems nor behavioral disorders leading to pica.

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공장의 모발석 1례

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임호경 · 김영옥 · 우영중

Bezoar는 흡수되지 않은 이물질이 음식물과 섞여 형성된 장내 결석으로 이 중에서도 모발에 의한 경우를 trichobezoar라고 한다. 모발석은 대부분 위 내에 존재하고 소장까지 이동하지는

않는다고 알려져 있으며 빈혈, 위장관 폐쇄 또는 천공, 복막염, 장중첩증, 췌장염 등을 유발할 수 있다. 저자들은 복통과 담즙성 구토를 주소로 내원한 8세 여아에서 공장내의 10 cm 길이의 모발석을 진단하였고, 이로 인해 유발되었을 것으로 추정되는 췌장효소(아밀라제 및 리파제)의 증가를 관찰하였다. 환아는 모발석의 수술적 제거 후 증상의 호전을 보였고, 췌장효소는 정상화되었다. 드물게 보고되고 있는 공장내의 큰 모발석 1례를 경험하였기에 문헌 고찰과 함께 보고하는 바이다.

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