CASE REPORT

Trichobezoars: Case Reports and Review of Literature

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Abstract

Bezoars are masses of foreign material in the gut, which can be of four types: phytobezoars, trichobezoars, lactobezoars and food boluses. Phytobezoars are the commonest among these. Stomach is the commonest site for bezoar formation. Bezoars can result in obstruction, irritation and damage to the gastric wall and malnutrition. They may present to the clinician with the complaints of pain abdomen, they may migrate into small intestine where they may cause obstruction or perforation, vomiting and malnourishment. Trichobezoars are associated with trichotillomania a disorder characterized by failure to resist impulse to pull out ones hair. In this article we review two cases, first was a case of twenty eight year old female who was diagnosed as a case of gastric trihobezoar and the second case was a thirty year old lady diagnosed as a case of perforation peritonitis due to trichobezoar in jejunum, with one part in the stomach.

Key words

Bezoars, Trichobezoars, Gut

Introduction

The term bezoar refers to accumulation/impaction of foreign material in the gastrointestinal tract and is known to occur in man and animals for centuries. Bezoars from the intestine of animals were originally worn as charms and promoted as remedies to prevent disease. Bezoars were also ground into potions for use as antidotes; the term bezoar comes from either the Arabic "badzehr" or Persian "padzehr" or Hebrian "beluzaar" which all means antidote or counter poison(1-4).

The first serious dissertations on the bezoar was made by Imad ul oia as early in the 16th century (1). During the middle ages many healing qualities were attributed to bezoars. The earliest references on the subject was made by Sushruta in India which dates back to 12th century BC(5).

In western countries, it was first described by Baudamant at autopsy in 1779 (6). The first surgical removal was done by Schonhorn in 1883 (6). Since then several case reports and small series have been reported and a classic review of the topic (311 cases) was made by DeBakey and Ochsner in 1938(2). We report our experience with two such cases.

CASE-1

The patient SD, a twenty eight year old woman presented with complaints of burning pain epigastrium and a lump in the upper abdomen for three months. The pain was severe, non-colicky, burning in nature had no relation to meals and had no relieving or aggravating factors. She also complained of early satiety and occasional vomiting. She had no bowel complaints. She was

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married for the past nine years and had an eight year old daughter, subsequently she had four first trimester abortions. There was no history of hair pulling or hair eating, although she had a habit of holding her hair in her mouth. She had long hair and her frontal hair appeared to be irregular, suggesting the possibility of hair pulling. A psychological evaluation revealed minor depressive disorder without any obessive component.

On examination of the abdomen a 6 x 8 centimeter mobile, firm, non-tender epigastric mass was palpable. Routine blood investigations were within normal limits. Barium meal examination and upper gastrointestinal endoscopy was performed. These evaluations revealed the presence of a gastric trichobezoar (Fig.1).

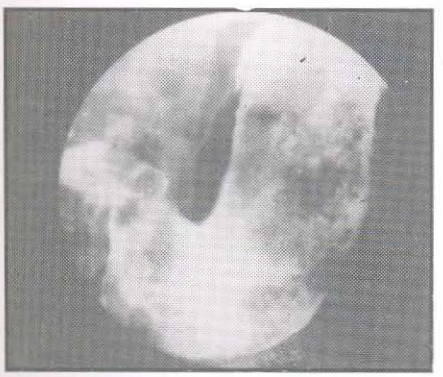

Fig 1. Barium meal examination showing gastric trichobezoar.

She was taken up for exploratory laparotomy. The abdomen was explored via a midline incision. The trichobezoar was removed via a gastrotomy, which was closed in two layers. Her postoperative course was uneventful. After discharge she was referred for a psychiatric follow up and at the time of writing this paper she was being investigated for the cause of the multiple abortions.

CASE REPORT-2

LK, a 30 year old woman was admitted with history of mid abdominal pain for 20 days. The pain was initially colicky but became continuous two days prior to the admission. There was history of bilious vomiting. The patient had passed small amount of flatus and stools till a day prior to the admission. She had been suffering from intestinal colic for one year prior to this episode. Patient had history of pica, which was revealed by the patient's mother. History of eating her own hair in childhood, episode of pain abdomen with recurrent vomiting and presence of hair strands in the vomitus was revealed by patient's mother. There was no history of any past surgical treatment. On examination the patient was afebrile but dehydrated and having tachycardia (HR-120/mt). Abdomen was tender and bowel sounds were diminished but abdomen was not grossly distended. Rectal examination revealed an empty rectum.

Laboratory investigations showed mild anemia (Hb 11gm%), normal white blood cell count (4300/mm), blood urea 56mg% and serum electrolytes Na+ -152meq/l, K+ -3.1meq/l, levels consistent with dehydration. Barium meal follow through examination done one week prior to admission in another hospital revealed a persistent honeycomb barium coated mass in the proximal small bowel. Plain x-rays done in the emergency department of AIIMS also showed a persistent honey comb mass with retained barium in the proximal small bowel and stomach with pneumoperitoneum. However rest of the bowel was not distended and there were no air fluid levels. (Fig. 2)

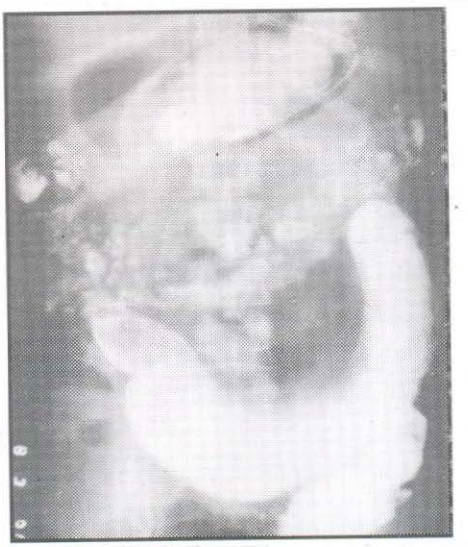

Fig 2. Abdominal radiograph showing persistent barium coated honeycomb mass in the stomach and small bowel.

An exloratory laparotomy was performed. On exploration there was generalised perotonitis as well as a loculated collection just below transverse mesocolon.

Bowel examination revealed two perforations (each of 2cm diameter) with unhealthy margin at the duodeno jejunal junction with proximal end of the trichobezoar projecting through the perforatins. Trichobezoar (30 cm in length) was removed through the perforations which were closed primarily (Fig.3).

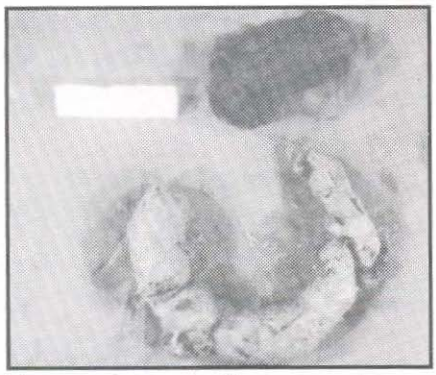

Fig 3. Trichobezoars extracted from stomach (upper) and small intestine(lower).

A duodenojejuonostomy with 2nd part of duodenum was done to bypass the unhealthy duodenal jejunal junction area. Examination of stomach revealed another trichobezoar 10-12 cm soft indentable mass which was removed through a gastrotomy. Rest of the bowel was normal.

Postoperatively, patient developed fistula from the site of perforation closure which was managed non-operatively and patient was discharged on 23 post operative day when the fistula healed completely. Psychiatric evaluation did not reveal any major psychological problem.

Discussion

Classification: Based on the origin there are four classes of bezoars: phytobezoars, trichobezoars, lactobezoars and medication or food bolus bezoars (4,7).

Trichobezoars were once the most common types of bezoars and accounted for more than half of the 303 cases collected by DeBakey and Ochsner in 1938(2). Characteristically, trichobezoars occur in children and adolescent females with long hair and emotional disturbance associated with trichotillomania or tichophagia (8,9).

Clinical presentation

More than 90% are reported in females with peak incidence in the second and third decades (10). These patients may ingest not only their hair, but also from other persons and animals as well as fibres from carpets and other sources(3). Evidence of hair loss may be present. There is controversy over the incidence of underlying psychological disturbances in these patients.

Trichobezoars are formed and usually confined to stomach and symptoms develop gradually as the bezoars grow. Initially patients may have anorexia, nausea and vomiting, early satiety, weight loss, epigastric pain and abdominal discomfort related to meals. Later patients may develop features of gastric outlet obstruction with passage of hair fragments in vomitus (3,11,12). Symptoms may be intermittent.

Sometimes trichobezoars may extend beyond the pylorus or may dislodge and travel into the small intestine where they may cause complicatiolns (12). Rapunzel syndrome occurs when intestinal obstruction is produced by a trichobezoars with a tail that extends to or beyond ileocaecal valvde (3,11,12,13).

Examination sometimes reveals hair loss, halitosis or epigastric mass which is mobile in all directions. Crepitus over the lump and indentability have been reported as specific signs of trichobezoars (10). Hair in the vomitus or gastric aspirate is diagnostic.

Laboratory investignations usually reveal an iron deficiency, microcytic, hypochromic anemia, slight leucocytosis and a positive test for occult blood. Radiological examination helps in more than 70% cases. Plain abdominal radiographs may be helpful in a few cases but barium meal or endoscopy are usually necessary to confirm the diagnosis. Barium meal may show an intragastric mass with barium retained on its honeycomb surface. Gastric endoscopy has been shown to be the diagnostic technique of choice (6,7,14) and it also has therapeutic value. Bezoars appear as a mass with a highly echogenic surface on ultrasound with minimal distal transmission; a mesh like pattern may be seen on CT scan, and a mass with signal density similar to air is seen on MRI (15,16).

Surgical removal remains the main stay of treatment of bezoars. As in our patient this was the mode of removal and this was successfully achieved with minimal morbidity. Removal of bezoars by endoscopy requires multiple insertions of the scope, removal of the bezoars piecemeal and a lot of patience and time(17). To aid endoscopic removal enzymatic digestion by proteolytic enzymes has been tried. The actual

disintegration may be achieved via a water jet, Nd: YAG laser or mechanical disimpaction(18). Chemical dissolution of trichobezoars have been attempted with instillation of papain and sodium bicarbonate. The problems with this mode of therapy include a low success rate, derangement of acid base balance and even possible mortality(3).

Complications

These include anorexia, hematemesis, gastric wall, Ulceration and free perforation with peritonitis(10). Other complications are intestinal obstruction, obstructive jaundice, malabsorption, protein loosing enteropathy, intussesception and appendicitis (2,3,6,11,12,13). In the most thorough review to date by DeBakey and Ochsner in 1938, the incidence of small bowel obstruction due to trichobezoar was 10.8% (27% with phytobezoar). The overall mortality rate was 19.1% with trichobezoar while in case of small bowel obstruction mortality rates rose to 47%. Drugs may get entrapped in bezoar and result in delayed release, which can precipitate toxicity (18).

Summary

Although known for centuries, bezoars continue to present diagnostic and therapeutic challenges for the surgeon. Bezoars have become increasingly recognized as a cause of intestinal obstruction. The current treatment and long term management depend upon identification of the nature and knowledge of the pathophysiology of each bezoar. Bezoars should preferably be recognised prior to the development of perforation and peritonitis and treated appropriately to minimise morbidity and mortality. Most attempts at endoscopic removal of trichobezoars have failed and hence the preferred treatment is surgical. If feasible, the bezoar may be removed through a single enterotomy. However, if there is evidence of mesenteric necrosis or sealed off perforations, it is suggested that multiple enterotomies be used to reduce tension placed in mesenteric border when removing the mass (12, 13). After removal of the bezoar rest of the bowel should be carefully examined for any missed perforation or residual bezoar.

Psychiatric evaluation is essential to prevent recurrence as underlying psychological and emotional disturbance may be a factor in trichophagia or trichotillomania.

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