Gastric Trichobezoar

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Introduction: Trichobezoars arise from the aggregation of ingested hair with other indigestible organic fibers. Trichotillomania, the practice of habitually pulling hair out, in association with habitual ingestion of hair (trichophagia) can predispose to the formation of trichobezoars.
Material and method: We present the case of a 28 year-old woman who was admitted to our clinic for abdominal pains, nausea and weight loss. The clinical examination revealed an abdominal mass in the upper part. The laboratory parameters were normal excepting a mild anemia and hipoproteinemia. A CT Scan of her abdomen showed a markedly distended stomach with a centrally located soft tissue abnormality. The patient underwent exploratory laparotomy and gastrotomy. We found an intragastric mass made up by hair. The trichobezoar was removed intact as a firm black mass and it was confirmed by the microscopic examination.
Results: The patient's post-operative course was uneventful and she was discharged after 7 days of hospitalisation. We suggested psychiatric counseling.
Conclusions: The trichobezoar appears in young people with psychiatric disorders. Due to its dimensions, the only treatment in this case was open surgery. The after surgery course is usually favorable and needs psychiatric counseling.

Keywords: trichobezoar, tricotillomania, trichophagia, Rapunzel syndrome

Introduction

Trichobezoars arise from the aggregation of ingested hair with other indigestible organic fibers. Trichotillomania, the practice of habitually pulling hair out, in association with habitual ingestion of hair (trichophagia) can predispose to the formation of trichobezoars [1,2] like in the following case diagnosed in our department.

Material and method

We present the case of a 28 year-old woman who was admitted to Surgical Clinic II for abdominal pains, nausea and weight loss. The clinical examination revealed an abdominal mass in the upper part of the abdomen. The laboratory parameters were normal, except for a mild anemia and hypoproteinemia. A CT scan (Figures 1, 2) of her abdomen showed a markedly distended stomach with a centrally located soft tissue abnormality.

The patient underwent exploratory laparotomy and gastrotomy (Figures 3, 4). We found an intragastric mass made up by hair.

The trichobezoar was removed intact as a firm black mass (Figure 5) and it was confirmed by the microscopic examination.

Results

The patient's post-operative course was uneventful and she was discharged after 7 days of hospitalization.

Discussions

The word "trichobezoar" is a combination of "tricho", meaning hair in Greek and "Bezoar", meaning an antidote in Arabic or Persian [1,3]. Usually trichotillomania (pulling of hair) and trichophagia (swallowing of hair) are the events that lead to the formation of conglomerates of

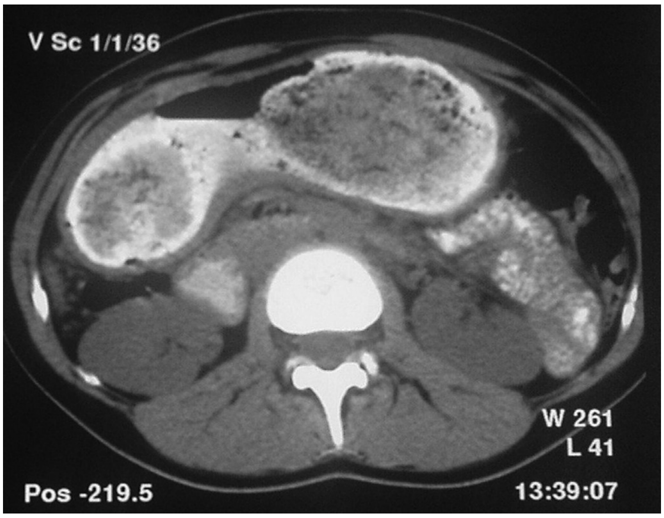

Fig. 1. Preoperative CT scan image, transversal aspect

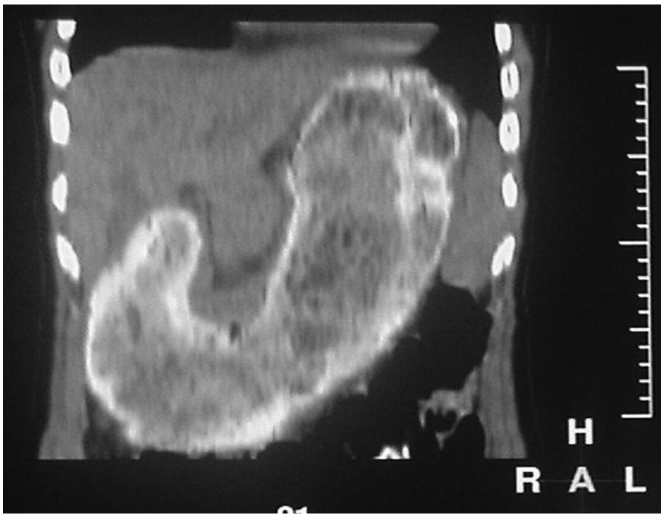

Fig. 2. Preoperative CT scan image, coronar aspect

Fig. 3. The laparotomy and the giant gastric mass

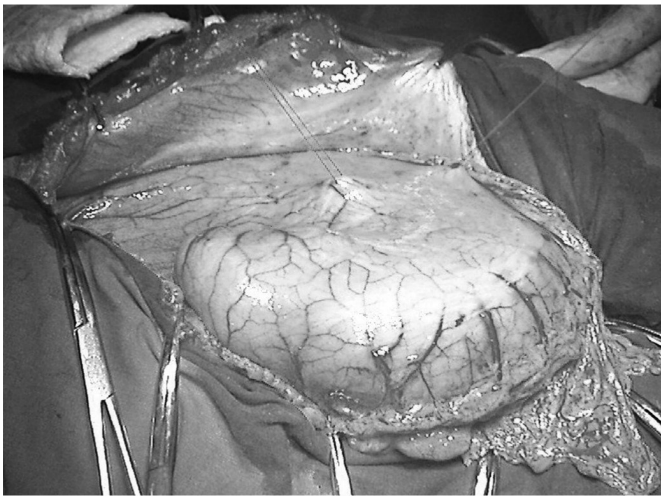

Fig. 4. The longitudinal gastrotomy

trichobezoar. The bezoars represent foreign material in the gastro-intestinal tract, with a frequency of 0.012% [4]. Although the stomach is the most common location, bezoars were also found in the duodenum, jejunum, ileum, colon, appendix and Meckel's diverticulum [3,5]. So far, about a thousand cases have been described [6].

There are four main types of bezoars. Phytobezoars include plant conglomerates. They are usually associated with decreased production of gastric acid and gastric evacuation difficulties after surgery [4]. Pharmacobezoars include drugs seized and may produce additional symptoms related to the release of active ingredients, including potentially fatal overdose. There are pharmacobezoars described with extended-release nifedipine, antacids and theophylline [4]. Lactobezoars are met exclusively in infants. Prematurity and concentrated formulas of milk are the main causes of lactobezoars [6]. Trichobezoars are conglomerates composed of hair that can not be discharged. Trichobezoars most commonly occur in the second decade of life and represent 12% of bezoars [7,8]. Up to 90% of trichobezoars occur in women under the age of 20 years. Men are rarely affected [8]. The mechanism suggested by some authors is blocking the gastric folds as the initial event. Due to the lack of elasticity and indigestibility, the hair gets caught up in the mucosal folds and will slowly grow, resulting in big conglomerates [5,9]. The trichobezoar is the result of a compulsive behavior – pulling hair (trichotillomania) and then swallowing hair (trichophagia). Patients often have anxiety disorders and require a complete psychiatric or psychological assessment of obsessive-compulsive syndrome. Trichotillomania often requires behavioral psychotherapy and pharmacotherapy [7]. Other predisposing factors include gastric surgery (57%), in particular bariatric surgery, truncal vagotomy, the Billroth II gastric resection, truncal vagotomy and pyloroplasty [9]. All have the same mechanism, delaying gastric evacuation.

Fig. 5. The aspect of trichobezoar after the complete removal

Clinical manifestations are depending on the location and size of trichobezoars from completely asymptomatic patients to acute abdomen [8]. Patients with gastric trichobezoars usually present vague and non-specific symptoms, including abdominal pain (70%), nausea and vomiting (64%), gastrointestinal bleeding (61%), dyspepsia, weight loss (38%), diarrhea or constipation (32%) [8]. A bezoar can also lead to acute complications such as mechanical obstruction, gastric perforation, gastrointestinal bleeding and hemorrhagic ulcers. The complications include acute appendicitis, obstructive jaundice, nutritional deficiencies, and intestinal intussusceptions [8,10]. Occasionally bezoars are gigantic, as in our case and may clinically suggest an intra-abdominal tumor [9]. Hypoalbuminemia and anemia associated with chronic gastritis can usually go unobserved until the case is brought to light by the appearance of severe complications, such as bleeding, obstruction or perforation. Perforation and peritonitis are mostly responsible for a mortality of approximately 30% [3,10].

Trichobezoars may present as an isolated gastric mass with extension into the small intestine (Rapunzel syndrome) or independent fragmented parts in the small intestine [7]. The clinical suspicion of trichobezoar should be higher in women with mental disorders with abdominal pain, while in psychologically healthy patients the diagnosis is suspicious.

If suspected, the trichobezoar can be diagnosed with radiological and endoscopic techniques. Radiological modalities consist of barium passage, ultrasound and computed tomography. On CT, a well-circumscribed lesion, composed of concentric spirals of different densities with pockets of air inside of it, is suggestive for a trichobezoar. It also helps to assess the rest of the digestive tract for sites of trichobezoars [11].

While medical approaches are useful for the treatment of phytobezoars, trichobezoars require endoscopic or surgical removal [4,12]. The endoscopic approach is most often used, but in case of failure or large bezoars require surgical treatment. Other minimally invasive procedures such as extracorporeal shockwave lithotripsy or endoscopic laser fragmentation are in development [13]. The minilaparothomys and laparoscopic approaches are widely recognized and there are better options than traditional laparotomies in such cases, especially for girls, because of better cosmetic results [12,14].

In the study of Koulas et al. on 23 cases, the surgical approach morbidity rate was 28% (wound infection, incisional hernias), while endoscopic morbidity was 11%. Mortality was 4% and 0% for surgical and endoscopic groups, respectively [8].

We didn't use a minimally invasive technique in our patient because of the large size of the trichobezoar and difficulties encountered during endoscopy. Long-term patient prognosis is excellent if behavioral therapy manages to control the mental disorders (trichophagia and tricotillomania). There are recurrent cases cited, who did not follow psychiatric complementary therapy [14].

Conclusions

The trichobezoar should be considered for differential diagnosis in young women with abdominal pain and the presence of a mass in the upper abdomen. The radiological and endoscopic imaging explorations are the most important for the paraclinical diagnosis. Endoscopic or surgical removal can be performed safely and effectively. To avoid any recurrence, the endoscopically or surgically cured patient must follow psychiatric or psychological counseling.

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