

Giant Trichobezoar in Young Patient with Severe Anemia Review of Literature and Psychological Considerations

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Abstract

A 19-year-old female presented at the emergency department with severe anemia and symptomatic abdominal mass that was diagnosed by computer tomography to be a giant gastric bezoar. The patient underwent exploratory laparotomy for the removal of giant bezoar through a gastrotomy. The technique is described with a review of the literature and psychological considerations.

Keywords: Trichobezoar; Severe Anemia; Surgical Technique; Management; Psychological Considerations; Follow-Up

Introduction

Gastric bezoar is a foreign body that grows as a mass in the stomach due to the accumulation of nonabsorbable food or fibers. Usually (90%) are found in young females and children [1] with pica, psychiatric disorders, or mental retardation. Bezoars are often removed by laparotomy, laparoscopic removal is increasing as the choice of intervention.

Case Report

A 19 years-old-female was admitted to the emergency department for acute abdominal pain, deep asthenia and severe anemia. Her past medical history was negative for previous surgery or psychiatric diseases.

Clinical examination reveals a palpable abdominal mass on the left hypochondrium with sign of tenderness at the palpation and alopecia circumscripta, anorexia. Routine blood tests revealed hemoglobin level of 4.0 g/dl so she was transfused with four units of blood. Gastroscopy show a giant solid mass in the stomach, impossible to remove with grasper or shaving (Image 1). The gastric wall was edematous and full of micro ulcers that had caused the anemia in a long period of time (Image 2).

Image 1: Endoscopic vision of Trichobezoar with alimentary stagnation.

Image 2: Endoscopic vision of gastric ulcers and fibrin.

Chest x - ray was negative. For the severe anemia and the level of malnutrition (BMI < 16) the patient was admitted at the surgery department. The CT scan showed remarkable over-distension of the stomach which appears completely occupied by inhomogeneous contents in part spontaneously hyperdense, mixed with an air component. The distended stomach determines the mass effect on the adjacent structures that were displaced and compressed (Image 3-5). Based on the findings described above, a diagnosis of gastric Trichobezoar was suspected. Surgical removal was recommended due to the presence of the mass causing anemia, impossibility to absorb food and mechanical obstruction. The patient underwent exploratory laparotomy, trichobezoar was confirmed. The mass was consolidated to the gastric walls and made a cast of it. The entire mass was removed through a gastrostomy. No perforation was found. The post-operative course was uneventful, the patient start eating on the IV post-operative day. The patient appears to be doing well over 2 months follow up. Psychiatric follow-up was arranged, where she showed improvement in behavior, which is key to prevent recurrence.

Image 3

Image 4 and 5

Removal technique

The patient underwent laparotomy trichobezoar removal from her stomach. She was operated on supine position with 30° reverse Trendelenburg tilt. With a 10 cm laparotomy the stomach was mobilized and a longitudinal 5-cm gastrotomy was made on the anterior surface of the cardia of the stomach and a contiguous trichobezoar cast of the stomach was extracted. The proximal end of the bezoar came out of the stomach, the hard bezoar was shaved in pieces and remove with a forceps. The absence of small residues was confirmed. The stomach was irrigated and the gastrostomy sutured with three layers of 3/0 absorbable sutures.

Discussion

Bezoars are concretions of human or vegetable fibers that accumulate in the gastrointestinal tract. The word “bezoar” comes from the Arabic word “bedzehr” or the Persian word “padzhar,” meaning “protecting against a poison.” At different times in history, bezoars from animal guts were used as precious stones, antidotes to poisons and today as part of traditional Chinese medicine [2].

There are 4 main types of bezoar, Phytobezoar, Trichobezoar, medication bezoar, lactobezoar. Most frequently the bezoar is composed of indigestible fruit, vegetable fibers, skin or seeds [3]. Previous gastric surgery can bring to the formation of phytobezoars, reducing gastric acidity, or delayed motility. Trichobezoars, or hairballs, are a mass of hairs, decaying food materials or both. Medication bezoars consist of undigested tablets or semi-liquid drugs. Lactobezoars are frequently found in low-birth-weight or premature neonates fed with a highly concentrated formula within the first weeks of life [3]. Trichobezoars usually (90%) are found in young females and children [1]. An indentable abdominal mass is the most common presentation [4], other signs are alopecia circumscripta, gastric obstruction and anorexia.

Our patient suffers from trichotillomania, a type of pica that was first described in 1889 as an irresistible urge to pull one’s hair [5] and subsequent trichophagia, the oral ingestion of hair. The treatment of trichotillomania and trichophagia can be difficult. Options include various medications, particularly the serotonin selective reuptake inhibitors; the behavioral technique of habit reversal by using play therapy; and hypnosis [6]. In some instances calcification is often observed, as in our patient.

Depending on the size of the bezoar there are some medical treatments. For small bezoars maybe it is possible to use nasogastric lavage or suction, a clear liquid diet, and the use of prokinetic agents. Bezoars may also be fragmented mechanically or through the use of digestive enzymes [7].

Fragmentation by enzymatic therapy has not been convincingly efficacious.

Endoscopic retrieval and fragmentation are frequently used for proximal bezoars whose size and density are not prohibitive; however, the procedure can be technically challenging, and fragments may migrate distally and cause small bowel obstruction [8].

Other therapies include extracorporeal shock wave lithotripsy with a good result [9].

Gastroscopy is particularly helpful in the setting of intraoperative gastric evaluation in which scarring from a previous gastric operation poses additional risk to the patient. Laparotomy is reserved for bezoars that have perforated (7%), have caused hemorrhage (10%), or are too large or obstructive to be managed less invasively [10].

In our patient, endoscopic interpretation of the bezoar was that it was giant, calcified, stuck with gastric wall, less invasive treatments were impossible to approach. Gastric trichobezoars can be easily extracted through a small gastrotomy; the duodenum and jejunum should be palpated carefully for hair balls that may have broken off from the primary mass.

Psychological considerations

During the patient's hospitalization period, two psychological counseling interviews were carried out through which it was possible to reconstruct, even if only partially due to the language barrier and limited time, her psychological history and the genesis of trichotillomania and trichophagia disorders. The patient reports that she grew up in a complex and unstable family context within which psychological distress, even in childhood.

Trichotillomania seems to have started in puberty with more or less significant periods of manifestation and then consolidated

over the years; the patient's perception is that this behavior over time has been her main resource for regulating intense emotional states such as anxiety, fear and sadness. From what was reported during the interviews, the onset of the trichophagia would have taken place in the last year, coinciding with the beginning of the Covid19 pandemic; the patient reports that the interruption of her work activity, the fear of not being able to support herself economically, social isolation and concern for the future have exacerbated her anxious states of her, making them less and less tolerable. The interviews clearly show a discrepancy between the patient's emotional development and the age of the patient; her speech, internal operating models and logic of thought often appear childish and naive, more easily ascribable to an adolescent than to a young adult of twenty-four. The internal resources necessary for a functional management of emotions are almost absent.

In the patient's experience, trichotillomania is a more accepted and acceptable disorder, also from a social point of view, compared to the trichophagic behavior, in fact during the interviews she shows a feeling of shame and often denial.

The reality check with respect to the severity of the clinical consequences related to the trichophagia has been consolidated throughout the hospital stay.

Trichotillomania is a disorder listed in the DSM-5 within the obsessive compulsive and related disorders, the criteria for diagnosing are: recurrently pulling out the hair with consequent loss of the same; repeated attempts to reduce or stop such behavior; hair pulling causes clinically significant discomfort or impairment of the social, work or other important areas of functioning; hair pulling or hair loss is not attributable to another medical condition; hair pulling is not best explained by the symptoms of another mental disorder [11].

It is estimated that trichotillomania affects 1% of the population with a prevalence in the female gender and that comorbidity with other psychiatric diseases is very high (82%) [12]. In the present case, the diagnostic criteria are fully satisfied and the trichotillomania appears to be of the focused type, that is, it occurs in response to feelings of urgency, to an impulse or to a negative emotional state [12]. Trichophagia pertains to pica, framed in the

DSM-5 within the nutritional disorders whose diagnostic criteria are: persistent ingestion of substances with no food content and inedible for a period of at least 1 month; ingestion of substances without food content, inedible and inappropriate with respect to the individual's stage of development; the ingestion behavior is not part of a culturally sanctioned or socially regulated practice; if the swallowing behavior occurs in the context of another mental disorder (e.g. intellectual disability, intellectual development disorder, autism spectrum disorder, schizophrenia) or another medical condition is serious enough to warrant additional clinical attention [11].

It is complex to establish the exact incidence of this condition in the general population as it is a rare disorder and the literature on it is often discordant and fragmented [13]. Based on what emerged during the interviews with the patient about her trichophagic behavior, it is difficult to say whether it is appropriate to diagnose pica; although the diagnostic criteria are widely met, the ingestion of the substance without food content is limited to one's hair, always in conjunction with trichotillomania and in response to significantly disturbing negative emotional states. This data could point towards the location of trichophagia as a symptom related to trichotillomania rather than placing it as a disorder of nutrition. In order to be able to express a more accurate diagnostic opinion, it would certainly be necessary to carry out a thorough psychological evaluation; According above and the clinical picture that emerged during the hospital stay, it was considered appropriate to send the patient to the local CPS to start a synergic and continuous path with a psychiatrist and psychotherapist.

During the interviews the patient was provided with two easy-to-learn tools for managing anxious states and emotional peaks which were positively received by the patient. The two tools used are diaphragmatic breathing training [14] and expressive writing [15]. The patient appears to be fine during six months of follow-up.

Conclusion

A bezoar should be considered in the differential diagnosis in a child or young female with symptoms of gastrointestinal obstruction and a painless upper abdominal mass. Other signs include anorexia, alopecia circumscripta and iron deficiency anemia. The best treatment for the patient consists in surgery and a close psychological and endoscopic follow-up to prevent recurrence over time.

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