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Case report

Large trichobezoar associated with misdiagnosis, a rare case report with a brief literature review

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ABSTRACT

Introduction: Trichobezoar is a rare disorder that almost exclusively affects young females. Up to 90% between 13 and 20 years of age. The current study aims to report and discuss a rare case of Misdiagnosis of Trichobezoar.
Case presentation: A 14-year-old girl student patient admitted to the Baxshin hospital, with a large trichobezoar filling the entire stomach with a long tail of hair extending within the pylorus into the proximal jejunum at a length of 70 cm; associated with abdominal pain, constipation, and vomiting. Laboratory data showed mild iron deficiency anemia, with a normal liver, and renal function test, patients' electrolytes showed a normal profile. Confirmation of the presence of the mass was done through abdominal Computed Tomography (CT) with contrast. The physician initially diagnosed as alopecia and suspected the abdominal pain was related to the postprandial emesis because the patient didn't provide a history of trichotillomania and used treatment for alopecia for a long time.
Discussion: The presence of a mass in the abdomen of a child is considered one of the most severe findings. Physical examination of the patient plus a full history taken, and the age of the patients provide a clear clue to the origin of the mass. Further investigation, including laboratory data and imaging findings, provides better understanding and a firm diagnosis. Trichobezoar should be considered by the physicians in this case.
Conclusion: In the early diagnosis of the trichobezoar, the physicians should investigate for any medical history of clinical trichophagia, trichotillomania, or a psychological problem.

1. Introduction

Hair pulling (trichotillomania) and hair eating (trichophagia) are the most common causes of trichobezoar conditions. Because of its smooth surface, human hair is resistant to digestion and peristalsis, and it can become trapped in the lumen. As a result, hair collects in the mucosal folds of the stomach. The swallowing of hair, mucous, and food continuously can cause impaction, resulting in the creation of a trichobezoar [1–3]. As a result of trichophagia; they are mostly found in the stomach but may occasionally extend into the jejunum, ileum, and colon as a tail, a condition known as Rapunzel syndrome [4]. The word "bezoar" comes from the Arabic word "bedzehr" or the Persian word "padzhar," [5].

Trichobezoars, on the other hand, are most common in children. About 90% of trichobezoars are seen in female patients with long hair, and the majority of patients have a history of trichotillomania, trichophagia, or other psychiatric illnesses [6]. Therefore, trichobezoar should be considered as a differential diagnosis in young females who present with non-specific symptoms [7]. The current study's aim was to report and discuss a case of large trichobezoar in a 14-year-old female patient who had previously been misdiagnosed as having alopecia and emesis related to the abdominal pain. This report has been written in accordance with the SCARE criteria guidelines for case reports [8].

2. Patient information

An 18-year-old girl student patient was admitted to the Baxshin hospital with her father and her aunt, with abdominal pain, constipation and vomiting, the parents were low socio-economic status, their 10 years old other daughter had cancer and was under treatment. The patient

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lived with her father, because her parents had a social problem. The patient weight was 33.5 kg. Malnutrition clinical signs were present. On abdominal examination, a large firm, non-mobile, non-compressible hard mass in the epigastric and left upper quadrant areas was palpated. She mentioned that she had a three-year history of eating hair and nails with hair loss in her frontal region of the skull. She has a good relationship with her friends. Her father reported that she liked to spend most of her time alone in her bedroom, making good academic progress at school, while one year ago she had poor abdominal pain, small volume of diarrhea, and loss of hair in the frontal region of her skull. She was initially diagnosed with alopecia and used treatment for alopecia for a long time.

3. Clinical finding

On physical examination, the vital signs were stable. The pulse rate and blood pressure were 138 bpm, 120\80 mmHg respectively. SPO2 was 95%. R.B.S was 73 mg\dl.

4. Diagnostic assessment

The laboratory investigation of the patient included the following results: white blood cells: 8.10/µl hemoglobin: 11.1 g/dl, hematocrit: 35.6%, ferritin: 13 ng/ml, iron: 67 µg/dl, iron binding capacity: 268 µg/dl, platelets 646 10^{-3}/µl with normal liver chemistries and lipase. Urea: 16.3 mg/dl, creatinine: 0.52 mg/dl, glucose: 100 mg/dl, electrolytes were normal, Sodium: 138 mmol/l. potassium: 3.76 mmol/l, chloride: 102 mmol/l. T3: 1.84 nmol/l, T4: 124 nmol/l, TSH: 1.63 uIU/ml, The ESR was 16 mm/h. Urine analysis (microscopy and protein) was normal.

Abdominal ultrasound demonstrated a heterogeneous mass related to the stomach. Preoperative abdominal (CT) with contrast confirmed the presence of a heterogeneous, no-enhancing mass like structure occupying the entire stomach (Fig. 1), extending to the pylorus and reaching to the duodenum. Other organs are normal, and based on the CT, a diagnosis of Trichobezoar was made, and evidence of short segmental circumferential wall thickening of the jejunum, measuring 6 mm in thickness, causing jejunojejunal intussusception with partial proximal bowel obstruction.

5. Therapeutic intervention

Subsequently, surgical intervention was planned through a midline laparotomy. A large mass was extracted through a seven-centimeter anterior gastrotomy incision. There was a large trichobezoar filling the entire stomach, measuring 21 cm in length and 8 cm in width, with a long tail of hair extending within the pylorus into the proximal jejunum at a length of 70 cm. The mass took the shape of the stomach, and the duodenum was identified and removed. Due to this feature, "Rapunzel Syndrome" was the clear diagnosis (Fig. 2). closed the incision in two layers using 2-0 Vicryl suture and the abdomen was closed without drainage. The procedure was performed at Baxshin Hospital by a general surgeon under general anesthesia with 10 years surgical experience.

Postoperatively, the patient was given intravenous of the following: Ceftriaxone 1 g 12 hourly for 6 days, Flagyl bottle 8 hourly for 6 days, fluids (one liters of normal saline and two liters of dextrose normal saline for 24 hourly for 5 days with KCl daily dose according to investigations), and Paracetamol bottle (1 g) 12 hourly for 6 days. Intramuscular Ketalgin & Tramal ampule on demand, Plasil ampule 12 hourly for 6 days, Neurobion ampule and Vitamin D ampule 5 IU one time.

6. Follow-up and outcomes

The patient had an uneventful recovery following the scheduled postoperative follow-ups. The patient was discharged after five days without complications on the fifth postoperative day. Feeding started six days postoperatively until proper bowel motion was achieved, she also underwent psychological treatment in order to prevent a recurrence.

7. Discussion

Continuous consumption of hair over time causes impaction of hair with mucous and food, resulting in the creation of a trichobezoar [9]. Trichobezoar is a rare disorder that almost exclusively affects young females. Up to 90% between 13 and 20 years of age with

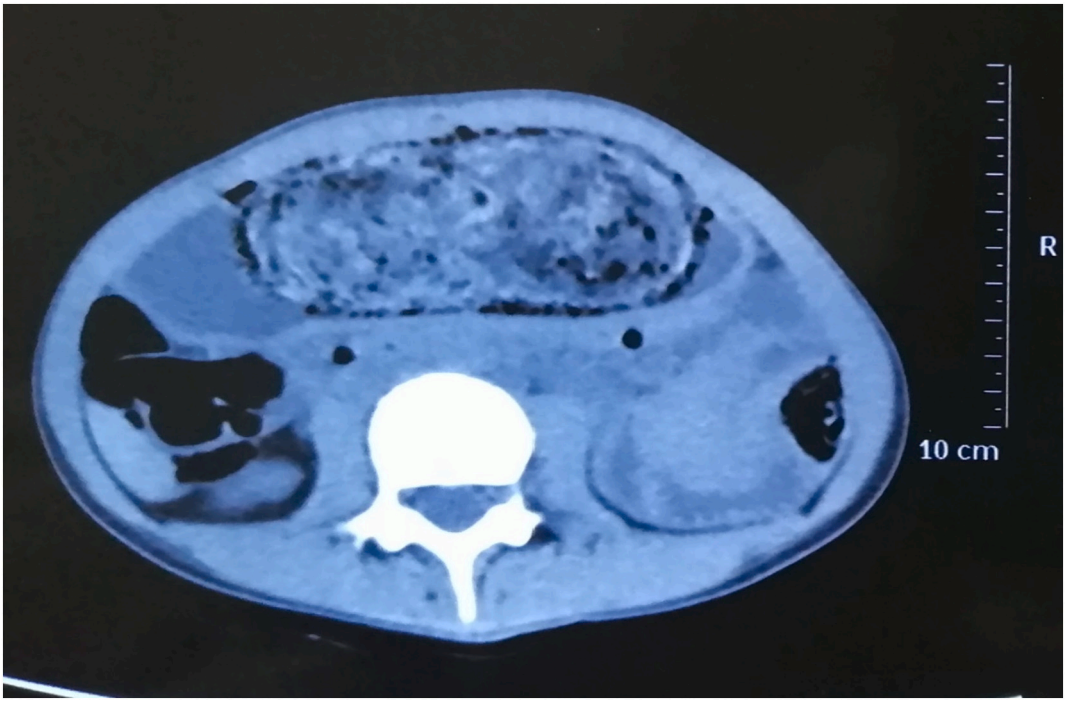

Fig. 1. Transverse view of trichobezoar occupying almost the entire gastric lumen.

Fig. 2. Gastrotomy and extraction of the trichobezoar 21 cm in length and 8 cm.

trichotillomania and trichophagia [10,11]. which may be attributed to the traditional hair in females [5,9].

The patient with a gastric trichobezoar usually presents with nonspecific symptoms, including abdominal pain (70%), nausea and vomiting (64%), digestive bleeding (61%), epigastric discomfort, early satiety, indigestion, weight loss (38%), diarrhea or constipation (32%) [12]. However, a retrospective study by Erzurumlu and colleagues which included 33 cases revealed that abdominal pain or epigastric discomfort was the most common symptom of a gastrointestinal bezoar in all cases, mild to severe nausea and vomiting in 33 cases [13]. Therefore, trichobezoar should be evaluated as a differential diagnosis.

The early detection of trichophagia and trichobezoar depends on effective screening for trichotillomania and related behaviors, in order to prevent a possibly life threatening condition with important medical and surgical morbidity [14]. Based on the initial clinical findings, the hair loss and abdominal pain, the current patient was misdiagnosed as alopecia and emesis one year ago before being admitted. Because trichobezoar affected patients are sometimes cannot be recognized in the early stage due to lack of symptomatic for many years, then the trichobezoar continues to increase in size and weight due to the continued ingestion of hair to the point of obstruction [5].

However, the trichobezoar patient's clinical future is typically associated with alopecia of the scalp, and occasionally alopecia of other regions of the body, which is initially non-scarring, with broken hair of varying lengths [15]. This increases the risk of dangerous complications like gastric mucosal erosion, ulceration, and even stomach or small intestine perforation. Intussusception, obstructive jaundice, protein-losing enteropathy, pancreatitis, and even mortality have all been described as (unrecognized) trichobezoar complications [7]. Furthermore, the illness is most frequently associated with the mentally retarded or young children, and it can be influenced by a range of factors such as anxiety, sadness, or familial stress [12].

Trichotillomania shows itself in a variety of different ways. Patients with trichotillomania pull hair from their scalps, but they also pluck hair from their eyelashes, eyebrows, legs, armpits, and pubic regions. Although trichotillomania is defined as hair pulling to the point of alopecia, a far larger number of people pull their hair but not to the degree of obvious alopecia. According to one study, 1.5% of males and 3.4% of women in college reported persistent hair pulling, [16].

The current case was misdiagnosed as alopecia for a long time, with continued to trichotillomania and trichophagia, then trichobezoar developed and increased in size. The patient's medical history of trichotillomania and trichophagia is important to suspect trichobezoar, especially when the patient has a psychological problem [9,17]. On the other hand, Patients may be asymptomatic for years and be misdiagnosed as a result of nonspecific symptoms [4]. But the history of trichophagia combined with multiple radiographic findings were sufficient for diagnosis [18].

Due to the physician's low index of suspicion, the patient's trichobezoar was diagnosed late. While most trichobezoar patients have a history of trichotillomania, trichophagia, or other psychiatric issues, a retrospective examination revealed alopecia areata of the patient's frontal forehead, consistent with trichotillomania. Therefore, the initial step of diagnosis of a trichobezoar is a direct question about consuming hair from the admitted patient (trichophagia) [6,18,19]. To prevent recurrence requires ongoing treatment of psychiatric illnesses before surgical treatment [20]. Initially, depressive, anxiety disorder with family stress were not detected in this case, then diagnosis in this patient was too late, therefore trichobezoar formation developed to become large.

8. Conclusion

Physicians should investigate for any medical history of clinical findings of trichophagia, trichotillomania, or a psychological problem upon early diagnosis of trichobezoar. Radiological findings of abdomen should also be considered for differential diagnosis of trichobezoar.

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Ethical approval

Approval is not necessary for case report in our locality.

Patient consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contribution

Muhsin Mohammed Ahmed, Kosar Shirwan Tahir, Doctors managing the case, follow up the patient, and final approval of the manuscript. Jeza M.Abdul Aziz, Mohammed I.M. Gubari: literature review, contribution to the idea writing the manuscript, final approval of the manuscript. Rebwar Hassan Khdhir Rasul, Muhammad Jabar Rashid: major contribution to the idea, revision and final revision of the manuscript.

Research registration

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