

# Intestinal Trichobezoar Causing Acute Small Bowel Obstruction: A Case Report

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## Abstract:

Intestinal trichobezoar is a rare cause of small bowel obstruction and poses a diagnostic challenge due to its nonspecific presentation. We report the case of a 35-year-old female who presented with persistent vomiting, abdominal pain, oliguria, and hemodynamic instability. Imaging with non-contrast computed tomography revealed a heterogeneously hyperdense intraluminal mass in the proximal jejunum causing proximal bowel dilatation, suggestive of a bezoar. The patient underwent initial diagnostic laparoscopy followed by mini laparotomy, enterotomy, and successful removal of a large jejunal trichobezoar. The postoperative course was uneventful. This case highlights the importance of early radiological evaluation, prompt surgical management, and multidisciplinary care in patients with intestinal trichobezoar presenting with acute obstruction and systemic compromise.

**Key Word:** Intestinal trichobezoar; Small bowel obstruction; Rapunzel syndrome.

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## I. Introduction

Intestinal trichobezoar represents a rare yet clinically significant form of gastrointestinal obstruction, predominantly affecting young females with underlying psychiatric comorbidities.<sup>1</sup> A trichobezoar is a concretion formed by the accumulation of ingested hair within the gastrointestinal lumen, typically originating in the stomach due to trichophagia, that is the compulsive ingestion of hair, often associated with trichotillomania, an impulse control disorder characterized by repetitive hair pulling.<sup>1</sup> The prevalence of trichobezoars is estimated between 0.06% and 4%, with a striking female predominance, especially during adolescence and early adulthood.<sup>2</sup> While most trichobezoars remain confined to the gastric cavity, a rare and more complex variant known as Rapunzel syndrome occurs when the hair mass extends through the pylorus into the small intestine, forming a "tail" that can traverse the duodenum, jejunum, or even the ileum.<sup>3</sup> This extension significantly increases the risk of mechanical complications, particularly small bowel obstruction, which is the most frequent clinical presentation requiring surgical intervention. The pathogenesis is insidious; patients often present with vague, nonspecific symptoms such as chronic abdominal pain, early satiety, nausea, vomiting, and weight loss, which can delay diagnosis for months or even years.<sup>1</sup> This diagnostic challenge is compounded by the fact that up to 10% of cases are linked to psychiatric conditions, yet patients frequently deny any history of hair-pulling or ingestion, making a high index of clinical suspicion paramount, especially in adolescent and young adult females with unexplained gastrointestinal symptoms and signs of malnutrition or alopecia.<sup>1</sup>

## II. Case Report

A 35-year-old female presented to the emergency department with complaints of multiple episodes of vomiting containing food particles, obstipation, distention for five days, associated with diffuse abdominal pain. She also reported decreased urine output for the preceding two days and complaints of dizziness. There was no history of fever, hematemesis, melena, or prior abdominal surgery.

The patient was a known follow-up case of scrub typhus-associated acute kidney injury with oliguria and uremic encephalopathy, for which she had previously required admission and underwent three cycles of haemodialysis.

On examination, the patient appeared ill and dehydrated. She was afebrile, with a pulse rate of 133 beats per minute and hypotension (blood pressure 86/64 mmHg). Abdominal examination revealed diffuse tenderness without guarding or rigidity. In view of hemodynamic instability, the patient was admitted to the

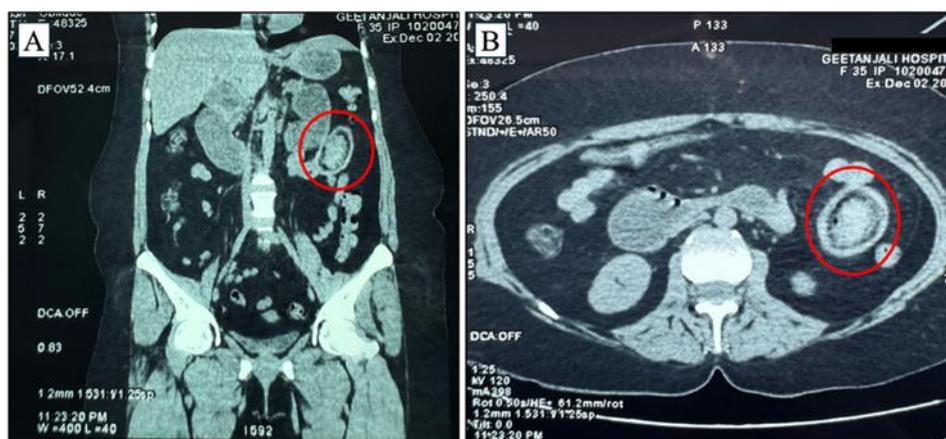
intensive care unit and resuscitated with intravenous fluids and supportive care, following which she was stabilized.

A non-contrast computed tomography (NCCT) scan of the abdomen was performed. Imaging revealed heterogeneously hyperdense intraluminal content within the proximal jejunal loop, measuring approximately 23 × 27 × 43 mm, causing significant dilatation of the proximal jejunum and duodenum (Figure 1A and 1B). The maximum jejunal diameter measured approximately 35 mm. Mild wall thickening was noted in the proximal jejunum, while the distal small bowel loops and colon appeared collapsed. The stomach was not overdistended. These findings were suggestive of an intraluminal obstructive pathology, with a differential diagnosis favouring an impacted bezoar causing small bowel obstruction.

Given the clinical and radiological findings, the patient was planned for surgical intervention. Diagnostic laparoscopy was initially undertaken, which revealed a distended proximal jejunal loop with a firm intraluminal mass (Figure 2A). Due to the size and consistency of the mass, a mini laparotomy was performed through a mid- midline incision. The involved jejunal segment was delivered through the incision (Figure 2B), and an enterotomy was made over the affected segment (Figure 2C).

A large trichobezoar was identified and carefully extracted in toto (Figure 2D). The enterotomy was closed in two layers, and bowel viability was confirmed. The abdominal cavity was inspected, and no additional bezoars were identified. The abdominal incision was closed in layers (Figure 2E and 2F).

The postoperative period was uneventful. The patient showed gradual improvement in bowel function and renal parameters and was managed with continued supportive care.



**Figure 1:** Imaging of intestinal trichobezoar. (A) Coronal NCCT abdomen showing heterogeneously hyperdense intraluminal mass within the proximal jejunum (encircled), with proximal bowel dilatation. (B) Axial NCCT abdomen demonstrating a well-defined intraluminal hyperdense lesion in the proximal jejunal loop suggestive of a bezoar (encircled).



**Figure 2.** Intraoperative findings and surgical management of intestinal trichobezoar. (A) Laparoscopic view demonstrating a distended jejunal loop with an intraluminal mass causing obstruction. (B) Exteriorized proximal jejunal loop following mini-laparotomy, showing a firm intraluminal obstructing mass. (C) Exteriorization of the involved jejunal segment through a mini-laparotomy incision. (D) Gross specimen of the extracted jejunal trichobezoar. (E) Closure of the enterotomy following complete removal of the trichobezoar. (F) Postoperative appearance of the closed mid-midline incision.

### III. Discussion

The term "Rapunzel syndrome" was first coined by Vaughan and associates in 1968 to describe an unusual form of trichobezoar where the hair mass extends from the stomach and duodenum through a substantial portion of the small intestine.<sup>4</sup> Trichobezoars involving the small intestine represent a diagnostically challenging entity due to their insidious onset and non-specific clinical presentation, often leading to delayed diagnosis and presentation with complications.<sup>1</sup> As demonstrated in the present case, patients frequently present in an advanced stage with features of intestinal obstruction and systemic compromise, underscoring the importance of early recognition and timely intervention.

Bowel obstruction remains the most common and clinically significant complication associated with intestinal trichobezoars.<sup>5</sup> Other reported complications include bowel perforation, intussusception, protein-losing enteropathy, obstructive jaundice, and pancreatitis, particularly in cases with prolonged luminal obstruction or extensive bowel involvement.<sup>1</sup> These potentially life-threatening sequelae highlight the need for a high index of suspicion in appropriate clinical settings.

Cross-sectional imaging, particularly computed tomography (CT), plays a pivotal role in diagnosis. CT allows accurate localization of the bezoar, assessment of its size and extent, and evaluation of secondary changes such as bowel dilatation, wall thickening, mesenteric stranding, and signs of ischemia.<sup>3,6</sup> Characteristic imaging features, including intraluminal mottled gas patterns and the small bowel faces sign, aid in differentiating bezoars from other causes of mechanical obstruction, such as neoplasms or strictures. Early radiological diagnosis is crucial for surgical planning and prevention of complications.

The management of trichobezoars depends on their size, location, and associated complications. While endoscopic removal may be considered for small, gastric bezoars, it is rarely successful for large or intestinal trichobezoars.<sup>7</sup> Surgical intervention remains the definitive treatment in cases of intestinal obstruction or Rapunzel syndrome. A laparoscopic approach for intestinal trichobezoars is considered advantageous due to superior cosmetic results and reduced hospital stay, although a mini-laparotomy incision is often required for specimen retrieval to minimize contamination.<sup>8</sup>

The present case emphasizes the importance of prompt hemodynamic stabilization followed by definitive surgical management in patients presenting with obstruction and systemic illness. Postoperative psychiatric evaluation and long-term follow-up are essential to prevent recurrence, although these aspects remain underreported in many case series.

### IV. Conclusion

Rosuvastatin 20 mg on every other regimen had equal effect when compared to daily dose regimen of atorvastatin 40 mg & rosuvastatin 20mg. Rapunzel syndrome is an extremely uncommon variant of trichobezoar that represents a rare cause of bowel obstruction, particularly in young females. Pre-operative diagnosis is critically facilitated by imaging modalities, with Computed Tomography (CT) using oral contrast being particularly effective. Surgical intervention remains the mainstay of treatment for symptomatic or complicated cases, such as those involving intestinal obstruction. Crucially, to prevent recurrence, prophylaxis must include comprehensive psychiatric counseling and long-term monitoring, as underlying mental health disorders like trichotillomania and trichophagia are almost universally associated with this condition. Addressing these psychological factors is essential for holistic patient care and preventing future episodes.

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