

# Giant Gastric Wood Bezoar: An Unknown Occurrence in Pediatric Age

Sandesh V Parelkar<sup>1</sup>, Arjun Apparao Pawar<sup>2</sup>, Beejal Sanghvi<sup>3</sup>, Rahul Kumar Gupta<sup>4</sup>, Kedar Mudkhedkar<sup>5</sup>, Gayatri Munghate<sup>6</sup>, Natasha Vageria<sup>7</sup>, Rujuta Shah<sup>7</sup>

<sup>1</sup>Professor and Head, Department of Pediatric Surgery, King Edward Memorial Hospital, Mumbai, Maharashtra, India, <sup>2</sup>Senior Registrar, Department of Pediatric Surgery, King Edward Memorial Hospital, Mumbai, Maharashtra, India, <sup>3</sup>Professor, Department of Pediatric Surgery, King Edward Memorial Hospital, Mumbai, Maharashtra, India, <sup>4</sup>Associate Professor, Department of Pediatric Surgery, King Edward Memorial Hospital, Mumbai, Maharashtra, India, <sup>5</sup>Assistant Professor, Department of Pediatric Surgery, King Edward Memorial Hospital, Mumbai, Maharashtra, India, <sup>6</sup>Ex-assistant Professor, Department of Pediatric Surgery, King Edward Memorial Hospital, Mumbai, Maharashtra, India, <sup>7</sup>Assistant Professor, Department of Pediatric Surgery, King Edward Memorial Hospital, Mumbai, Maharashtra, India

## Abstract

Bezoars are masses or concretions of indigestible materials found in the gastrointestinal tract. Various materials have been the cause of the bezoar; however, wood has never been reported before in pediatric age group. Wood bezoars represent a therapeutic challenge as they are hard in consistency, large in size, and there is risk of damage to the endoscope during retrieval. We report a case of a 10-year-old boy with wood bezoar. Three attempts of endoscopic retrieval by the gastroenterologist were made. The last attempt resulted into gastric perforation. He underwent a laparotomy with gastrostomy and retrieval of large wood bezoar. The child recovered well and is under psychological treatment for wood consumption.

**Key words:** Gastric, Pediatric, Wood bezoar

## INTRODUCTION

Bezoars are collections of indigestible foreign material that accumulate and coalesce in the gastrointestinal (GI) tract. The overall reported incidence of bezoars is 0.4%.<sup>1</sup> In pediatric population, common types described are lactobezoars, phytobezoars, and trichobezoars.<sup>2</sup>

We report a case of 10-year-old boy with wood bezoar, which was managed successfully by surgical intervention following failure of three attempts of endoscopic retrieval. This is the first case to be reported in pediatric age group.

## CASE REPORT

A 10-year-old boy presented with a history of episodic abdominal pain for 1½ years, vomiting for 6 months,

generalized weakness and easy fatigability. He presented to the Gastroenterology Department for the same and was investigated. He habitually ingested broomsticks, matchsticks, wood flakes, and plywood scraps from his school desk since he was 2½ years old. He had a hard lump in the left hypochondrium about 5 cm × 5 cm in size. An X-ray abdomen erect showed radio-opaque shadow outlining the stomach wall. Ultrasound of abdomen showed echogenic material in stomach with thickened walls. Computed tomography scan of abdomen revealed hyperdense material with air specks within suggestive of bezoar with gastric mucosal folds hypertrophy and enhancement. Upper GI scopy (Figure 1) showed a wood bezoar. The patient underwent three attempts of retrieval of bezoar endoscopically by the gastroenterologists with the usage of Coca Cola® beverage, but very little of the bezoar could be extracted. After the third attempt of endoscopic retrieval, he presented with distended abdomen along with tenderness and guarding, suspicious of GI perforation. However, the X-ray abdomen did not reveal free gas under diaphragm. After adequate resuscitation, he underwent exploratory laparotomy. The stomach was distended with few pus flakes on the surface and a 0.5 cm × 0.5 cm perforation over the anterior wall. Anterior gastrotomy incorporating the perforation site was

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**Month of Submission :** 10-2016  
**Month of Peer Review :** 11-2016  
**Month of Acceptance :** 11-2016  
**Month of Publishing :** 12-2016

**Corresponding author:** Dr. Arjun Apparao Pawar, Senior Registrar, Department of Pediatric Surgery, King Edward Memorial Hospital, Mumbai, Maharashtra, India. Email id: drarjunapawar@gmail.com

done along with en masse removal of the wood bezoar. The bezoar was 13 cm × 11 cm × 6 cm in dimension and weighed 200 g (Figure 2). There was marked hypertrophy of the gastric mucosal folds. The gastrotomy was closed in two layers. Postoperatively, he was counseled by the child psychologists and was started on fluoxetine. He has been regularly following up with the child guidance clinic and since surgery (1 year 4 months follow-up), he is alright and not eating wooden scrapes.

## DISCUSSION

Bezoar (from Persian word “bazahr” meaning antidote) is a mass found trapped in the GI system, usually the stomach, though it can occur in other locations.<sup>3</sup>

Bezoars can be of many types - Tricho (hair), phyto (plant), lacto (milk), litho (stone), trichophyton (hair and plant), paper bezoar, pharmacobezoar (medicines), cement bezoar, yeast bezoar, shellac bezoar, polybezoar (bezoars



**Figure 1: Upper gastrointestinal endoscopy showing wood bezoar**



**Figure 2: Bezoar was 13 cm × 11 cm × 6 cm in dimension and weighed 200 g**

composed of multiple objects, e.g., metallic, plastic), and chewing gum bezoars.<sup>4</sup> Rapunzel’s syndrome is rare and an unusual form of trichobezoar which extends into the small intestine to various extent. The term “Rapunzel’s syndrome is derived from the Grimm Brothers’ fairy tale of a 12-year-old princess who was shut into a tower with neither stairs nor doors by an enchantress who climbed up the tower’s walls with the help of Rapunzel’s long tresses.<sup>5</sup>

Wood bezoar is a very rare type of bezoar. After an extensive literature review, we could find only one case report about a wood bezoar in 20 years female with neuropsychiatric disorder and history of ingesting matchsticks and color pencils for over 4 years.<sup>6</sup> To the best of our knowledge, our case is the first case of wood bezoar in pediatric population.

Clinical manifestations of bezoar vary with its location; from being asymptomatic to complaints such as epigastric distention, abdominal pain, and acid regurgitation to lump to major complications of bezoars such as gastric ulceration, intestinal obstruction, and gastric perforation.<sup>7</sup>

Various treatment modalities are available for the management of bezoars. Bezoars can be treated by conservative modalities (gastric lavage), endoscopic treatment, conventional surgery as well as laparoscopic surgery.<sup>8</sup> Endoscopic management of bezoar can be done using NaHCO<sub>3</sub> which is mucolytic also CO<sub>2</sub> bubbles are released which penetrate into the bezoar and digest the fibers in the concretions. The use of Coca Cola<sup>®</sup> lavage has also been reported in a few studies.<sup>9</sup> In our case, three attempts were made for removal of wood bezoar by gastroenterology, but failed to retrieve it completely and had gastric perforation during the third attempt. In conventional surgery, bezoar removal is commonly done by gastrotomy and/or enterotomy depending on location and extent. If complicated by small bowel obstruction, gastric perforation or gastric hemorrhage, then gastric repair and/or intestinal resections may be needed.<sup>10</sup> Nowadays, laparoscopic approach has been used as well. When expertise is available, laparoscopy is safe and effective in the management and yields superior postoperative outcomes when compared with conventional open approach.

Wood bezoar is not been reported in pediatric age group, and only one report is available in adult population. It needs very high index of suspicion for diagnosis. Various modalities are available for the diagnosis; however, definitive diagnosis is only made by upper GI endoscopy. Endoscopic management is successful in managing bezoars to a various extent. Wood bezoars are relatively difficult to manage with endoscopy and may have complications such as gastric perforation and damage to endoscope. Hence,

primary surgical exploration and removal of wood bezoar are advisable.

## CONCLUSION

Wood bezoar is an extremely rare entity not yet reported in pediatric population. We recommend surgical removal of wood bezoar without endoscopic trial.

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**How to cite this article:** Parelkar SV, Pawar AA, Sanghvi B, Gupta RK, Mudkhedkar K, Munghate G, Vageria N, Shah R. Giant Gastric Wood Bezoar: An Unknown Occurrence in Pediatric Age. *Int J Sci Stud* 2016;4(9):193-195.

**Source of Support:** Nil, **Conflict of Interest:** None declared.