

# Trichobezoar in a 13 year old Male: A Case Report and Review of Literature

Alistair M Pace, Christopher Fearne

## Abstract

Case report of a trichobezoar occurring in the stomach of a 13 year old boy known to suffer from trichotillomania. 90% of trichobezoars occur in adolescent females and the occurrence in males is rarely documented.

The clinical presentation and complications of trichobezoars are discussed. Differential diagnosis of epigastric masses in children and the investigations utilised to diagnose these intragastric hairballs together with possible hypotheses on their pathogenesis are discussed.

## Introduction

Infants and children, particularly if mentally disturbed or abnormal, may acquire the habit of swallowing foreign material which if it persists may lead to the formation of a bezoar in the gastrointestinal tract. This foreign material may be vegetable or any other substance. If it contains hair it is known as a trichobezoar.<sup>1</sup>

Trichobezoars make up 55% of all bezoars<sup>2</sup>, 90% occur in adolescent females,<sup>3,5</sup> probably as a consequence of their long hair,<sup>4</sup> though they may occur in both sexes and have also been described in the new-born. This case report is unusual in that the patient was male and such cases are rarely reported in medical literature.

## Keywords

Trichobezoar, trichotillomania, epigastric masses

**Alistair M Pace** MD, MRCS

Royal Berkshire Hospital, Craven Road, Reading, UK

Email: alistairpace@hotmail.com

**Christopher Fearne** MD, FRCS

Department of Paediatric Surgery,

St Luke's Hospital, Guardamangia, Malta

## Case Presentation

A healthy thirteen year old Maltese school boy was referred to St. Luke's A & E department by his G.P. He had a two week history of epigastric and chest discomfort, worse at night and after food. The child had been noted to be losing appetite and had recently developed episodic vomiting. The patient had noted a lump in the epigastric region during the previous months. Detailed history taking revealed a 7 year history of scalp hair and fur eating mostly from soft toys. There was evidence of psychological problems related to family affairs and parental marital problems.

On examination the child was well built, no sign of malnutrition was apparent and there was no alopecia. He had sparse short hair. Abdominal examination revealed a rock hard nodular non-tender, ballotable mass in the left upper quadrant emerging from beneath the left costal margin and extending over the midline. The mass moved with respiration and it was possible to get above it. There was no generalised lymphadenopathy and no supraclavicular nodes were detected.

Blood investigations including a full blood count, urea and electrolytes were normal and a mid-stream specimen of urine was within normal limits. Abdominal X-rays revealed a semiluent, mottled round density protruding into the stomach gas bubble in the upright view and following the general contours of a distended stomach (photo 1).

Gastroscopy revealed a large trichobezoar in the antral area which could not be removed endoscopically. At laparotomy, carried out through a midline incision, a large 20x10 cm J-shaped foul smelling loose trichobezoar black in colour was retrieved via a longitudinal anterior gastrotomy (photo 2). The trichobezoar was found to contain human hair and synthetic fibres. There was moderate gastritis along the lesser curve but no apparent gastric ulceration. There were no daughter bezoars and no extension of the bezoar into the duodenum. The patient made a good post-operative recovery. There were no complications after the surgery and the child was referred to the child guidance clinic for psychological support.

## Discussion

1 in 2000 children worldwide suffer from trichotillomania (impulsive hair pulling). Trichophagia (swallowing of one's hair) is seldom seen and bezoars are not formed in all children with trichophagia<sup>5</sup>. When trichophagia does occur it is not necessarily the result of severe neuropsychiatric problems but may be due to emotional stress or a personality disorder, similar to nailbiting.

Trichobezoars are usually symptomless until they reach a large size. They may present with malaise, weight loss, vague abdominal pain related to meals, anorexia, halitosis, vomiting, wasting and cachexia<sup>5</sup>. 88% of large bezoars are often palpable. They are usually mobile and well defined in 90% of cases and may be indentable (Lamerton's sign)<sup>6</sup>. Trichobezoars weighing 2500 grams have been reported.<sup>10</sup>

They may cause a number of complications including gastritis causing occult blood loss and secondary anaemia<sup>5</sup>, ulceration in 10% of cases, 30% of which perforate.<sup>7</sup> Obstruction, haemorrhage and intussusception have all been recorded. The duration of the symptoms varies and is determined by the degree of changes in the physiology of the gastro-duodenum and the presence or absence of other complications.<sup>4</sup>

The differential diagnosis of a patient presenting with an epigastric mass includes a left liver lobe tumour, splenic enlargement due to lymphoma (e.g. Burkitt's non-Hodgkin's lymphoma), a neuroblastoma and a rare carcinoma of the stomach<sup>10</sup>. Plain X-rays reveal findings similar to the ones described in this case report. Ultrasound scanning reveals areas which are typically highly echogenic and the mass casts a very intense sonic shadow<sup>5</sup>. Barium studies typically show an intragastric mass with barium in the honeycomb interstices. There is no connection to the stomach wall and the mass does not arise from it<sup>5,8</sup>. Computed tomography reveals a well-defined intraluminal mass with interspersed gas. There may be dilated intestinal loops.<sup>10</sup>

Formation of trichobezoars has been hypothesised to occur initially when the hair strands are retained in folds of gastric mucosa because their slippery surface prevents propulsion by



**Photo 1:** Standing AP radiograph showing trichobezoar opacity occupying most of the gastric shadow



**Photo 2:** Operative pathology specimen of trichobezoar with accompanying scale

peristalsis. As more hair is added, peristalsis causes it to be enmeshed until a ball forms too large to leave the stomach, causing gastric atony due to its large size. This large quantity of hair becomes matted together to assume the shape of the stomach, usually as a single mass<sup>2,3,4,5</sup>. Mucus covering the bezoar gives it a glistening shiny surface. Decomposition and fermentation of fats in the interstices gives it a putrid smell<sup>3</sup>. The acidic contents of the stomach denature the hair protein giving it its black colour irrespective of the original colour of the hair<sup>2,10</sup>. In 5% of cases there may be more than one hair ball<sup>5</sup> and at times the hair ball may extend down to the caecum causing the rare condition called Rapunzel syndrome<sup>11</sup>.

Surgical removal at laparotomy or laparoscopically is the treatment of choice<sup>3</sup>. If small they may be removed endoscopically<sup>2</sup>. Biopsy devices, water jets and bezotomes as well as laser devices may be used to fragment larger bezoars after which the fragments are lavaged out of the stomach.<sup>10</sup>

Untreated bezoars have a mortality of 75% and there is a 4% mortality. As trichobezoars are associated with mental retardation and psychiatric and psychological disorders expert help is essential and recurrence is likely if the habit is not abandoned.<sup>5</sup>

## References

- 1 Pandeya NK Trichobezoar: A case report of recurrence in same patient, *Journal AOA* 1974; 2:137-8
- 2 Sharma V. Gastrointestinal Bezoars. *Journal of the Indian Medical Association*, 1991; 89(12):338-9
- 3 Bholla SS, Gurjit S Trichobezoar. *Journal of Indian Medical Association*, 1993; 91(4):100-101
- 4 Nawalkha PL, Mehta MC. Trichobezoar (A Case Report). *Journal of the Association of Physicians of India* 1972; 20(4):339-41.
- 5 Sood AK, Bahl L, Kaushal BK. Childhood Trichobezoar. *Indian Journal of Paediatrics* 2000; 67(5):390-1.
- 6 Lamerton AJ. Trichobezoar: Two Case Reports- A New Physical Sign. *American Journal of Gastroenterology* 1984; 79:354-6
- 7 Taylor TV, Bruce Torrance H. Trichobezoar presenting as an unusual mass, *Journal R. Coll Surg. Edin.* 1975; 20(2):128-129.
- 8 Ratcliffe JF. The ultrasonographic appearance of a trichobezoar. *British Journal of Radiology* 1982; 5:166-167.
- 9 Baker D, Trichobezoar. *Medical and Paediatric Oncology.* 1998; 16(5):341-343
- 10 O' Sullivan MJ, Mc Greal G, Walsh JG. Trichobezoar. *Journal of the Royal Society of Medicine.* 2001; 94 (2):
- 11 Vaughs E, Sayers J. The Rapunzel Syndrome- an unusual complication, *Surgery.* 1968; 63:339-43