

Case Report

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Trichobezoars in Sirohi Goat —A Case Report

Kamal Purohit*, Goverdhan Singh, Anita Rathore, Mamta Kumari,
Naresh Singh Kuntal and Pravin Purohit

Department of Veterinary Pathology, Collage of Veterinary & Animal Sciences, Navania,
Vallabhagar, Udaipur - Rajasthan 313601, India

*Corresponding author

ABSTRACT

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A three month old Sirohi breed of kid was presented with history of gradual off feed maintained in an organized farm. On clinical examination of kid revealed dehydration, dullness, anemic and the condition is deteriorated and suffering with respiratory distress leading to death of kid. On postmortem examination of kid revealed that, there was one hard ball, in the rumen. The hairballs occupied most of the rumen leaving little space for food and therefore, it was considered to be the cause of the in-appetence. Furthermore, understanding the pathophysiology of bezoar formation along with predisposing risk factors may aid in preventing recurrence.

Introduction

Bezoars can be composed of virtually any substance including food, hair, medications, and chewing gum. Bezoar are most commonly found in the stomach but they may found anywhere from the esophagus to the end point of rectum. Bezoars are retained concretions of undigested foreign substances, which accumulate and found within the gastrointestinal tract most commonly in the stomach, Arulnathan and Bandeswaran (2013). They are most commonly reported in the stomach of ruminant animals such as goats, antelopes, and llamas. Affected animals often asymptomatic or display symptoms indistinguishable from other gastrointestinal disorders resulting in delayed diagnosis and

potential life-threatening complications like choking of particular parts occurs. Affected individuals may also show considerable weight loss and compromised nutritional status due to early satiety and vomiting.

Case history

The carcass of a female Sirohi goat was submitted for post-mortem with a history that prior to death; the animal had been weak and anorectic, quick abdominal breathing and rising temperature.

History of trichobezoar

They have been used to treat poisons such as arsenic, venomous bites, epilepsy, dysentery,

and the plague. The term bezoar evolved from the Persian “pahnzehr” or the Arabic “badzehr,” which mean counter-poison or antidote (Andru *et al.*, 1988).

Bezoars had the considerable value and possessions in the middle ages and were commonly set in gold and decorated with jewellery and known as “bezoars stone.”

Now a day’s bezoars are recognized as a potentially harmful in patients with signs of compromised gastric anatomy and/or gastrointestinal motility.

Classification of Trichobezoar

Trichobezoars are the classically described “hair bezoars” occurring most frequently in young once, Pfau and Ginsberg (2002) trichobezoars results from ingesting large quantities of hair, carpet fibres, rope, string and clothing.

The hair fibres become entangled in the gastric folds and resist peristalsis. Gastric acid denatures the hair proteins and blackens the bezoars.

Clinical observations

On clinical examination of the kid revealed all physiological parameters (Respiration rate, heart rate and rectal temperature) were normal. However, kid showed emaciation, dehydration, scanty faeces and slight distension of the abdomen at paralumbar fossa. Some animals in the same trip (flock) seen to be losing hair and repeatedly bite off the hair from other goat or their own bodies.

Symptoms

Include abdominal bloating, nausea and vomiting, early satiety, post-prandial fullness, halitosis, anorexia, dysphagia and weight loss. Individuals with altered gastrointestinal anatomy and/or motility are at increased risk for developing bezoars.

In goats bezoar was first reported in the 12th century BC after these stone-like concretions were also reported in the stomach of a Syrian goat. Bezoar those found in goats were considered to have healing properties and therefore, were much sought after for medicinal purposes.

Table.1 Classification of trichobezoar

| Bezoar Classification | |
|-----------------------|---|
| Phytobezoar | Composed of nondigestible food particles found in fruit and vegetables (cellulose, hemicellulose, lignin) |
| Trichobezoar | Hair bezoar. Associated with young females and/or patients with psychiatric illnesses who ingest hair, carpet, rope, string, etc. |
| Lactobezoar | Compact mass of undigested milk concretions traditionally described in pre-term neonates on highly concentrated formula |
| Pharmacobezoar | Conglomeration of medications or medication vehicles (extended release products, bulk-forming laxatives) |
| Others | |
| Trichophytobezoar | Mixture of hair, fruit, and vegetable fibers |
| Diospyrobezoar | Persimmons |
| Dead ascaris | Worm bezoars |



Fig 1. Trichobezoars detected in the rumen of Sirohi goat



Fig 2. Trichobezoars recovered from a Sirohi goat

The incidence of foreign bodies is lower in goats compare to the sheep because the former is selective in their feeding habits.

Postmortem observations

Grossly at post-mortem, the carcass was found to be severely emaciated and had a left unilateral corneal opacity. Both heart chambers were filled with current jelly blood clot. The rumen was found to contain one large round hair ball size ranging from 44.61 × 40.83 mm in diameter in the rumen (Figures 1 and 2). When these balls were cut opened, they contained goat hair, which was enclosed in a leathery outer shell.

Discussion

Trichobezoars are most common in young calves which are usually due to trichophagia associated with persistent licking of pen mates, Drawer (1978). Hair balls appear to normal but there is a report from India in a goat, which was presented with anorexia and recurrent bloat caused by a large number of hairballs and these turned out to be made of human hair, William *et al.*, (2000). Post mortem examination revealed, the rumen impacted with hairballs, leaving little or no space for food, which may be the reason for anorexia and weight loss Baillie and Anzuino

(2006). The incidence of foreign bodies is lower in goats than sheep, the former being more selective in their feeding habits. Depraved appetite or pica has also been associated with phosphorus, Fraser and Bloom (1990). Anorexia can also occur due number of diseases such as infectious diseases, gastro-intestinal parasitism and nutritional diseases Fraser and Bloom (1990). Other reasons for the occurrence of trichobezoars include decreased gastro intestinal motility due to stress factors such as malnutrition, lack of free movement and lack of exercise. These are all assumed to lead to anorexia, dehydration and the accumulation of hair and ingesta in the stomach, which prevents adequate gastric emptying (Theus *et al.*, 2008; Ravi *et al.*, 2014).

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