

THERAPEUTIC MANAGEMENT OF ENTEROLITHS IN A MARE-A CASE REPORT

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Acute abdominal pain in the horse is one of the most common emergency in equine practice. Irritation or obstruction of the gastrointestinal tract is caused by excessive geosediments, which leads to chronic diarrhoea, weight loss and colic (Husted *et al.*, 2005). Equines, particularly grazing ones, are more prone to sand colic, sand impaction and enteroliths (Colahan, 1987; Hassel, 2002). The most devastating aspect of this condition is the potential for pressure necrosis and rupture of the intestinal tract (Hassel, 2002). Clinical signs vary in horses with sand impactions and are similar to the signs resulting from impactions of the large colon by ingesta (Synder and Spier, 1996). Mild cases of sand colic are commonly treated with non-steroidal anti-inflammatory drugs, mineral oil, dioctyl sodium sulfosuccinate, magnesium sulphate and psyllium mucilloid (Landes *et al.*, 2008).

CASE HISTORY AND OBSERVATIONS

A 9-year-old Kathiawari mare was presented at TVCC of the college from nearby village with complain of inappetance and abnormal abdominal stretching position. Owner had transferred the mare at another farm for the training purpose for last 3 days. No precise feeding history was available with owner.

Upon examination, the mare was found lethargic, dull and depressed. The capillary refill time, body temperature (100.3°F), pulse rate (45/min) and respiratory rate (16/min) were within normal range. On palpation she showed signs of abdominal pain and her gut sounds were decreased mostly on the left upper quarter. Based on history and clinical observations, the case was tentatively diagnosed as a mild colic.

CLINICAL MANAGEMENT AND DISCUSSION

Symptomatic treatment of colic was carried out with normal saline (4 lit) and 5% dextrose normal saline (2 lit) i/v along with injections of 12 ml neoprofen (Ketoprofen, 100 mg/ml, Pfizer), 5 ml cadistin (Chlorpheniramine maleate, 10 mg/ml, Zydus Animal Health Care), 10 ml multivitamin (MVI,

**Photo1. Mare showing colicky symptoms****Photo 2. Enteroliths recovered from the mare**

Hospira) and 5 ml tetanus toxoid parenterally. Next day morning she started feeding, but still remained depressed. In the evening, she started showing symptoms of rolling down (Photo-1), kicking at her abdomen, grinding of teeth and assumed sitting posture without passing faeces and urine. The right side abdomen showed distension with congested visible mucus membrane and normal rectal temperature (100.1°F). She was treated symptomatically again with normal saline (6 lit), ringer's lactate (6 lit) and 5% dextrose saline (4 lit) i/v, along with the injection unizif (Flunixin meglumine, 50 mg/ml, Intas Pharma), multivitamin (MVI, Hospira), neuroxine (Zydus), myostigmin (Neostigmine, 0.5 mg/ml, Neon labs) and lasix (Frusemide, 40 mg/ml, Sanofi Aventis). Quickly mare passed faeces and scanty yellowish urine. Per-rectal examination revealed impaction in the large colon, and the faecal balls were palpated through the wall of the colon. Enema with liquid paraffin helped to evacuate impacted contents. Next two days same treatment was repeated in addition to naso-tracheal administration of liquid paraffin. Because of repeated treatment she started feeding and passed faeces and urine.

Suddenly relapse of recurrent signs of colic were shown by the mare with absence of defecation just after day of discontinuation of treatment. The mare showed stretching of abdomen and rolling on the ground, which was confirmed by presence of sores and scratches around abdomen and thigh region. Right side abdomen got enlarged, which on percussion revealed doughy sound. History of the feeding of alfalfa grass was provided by owner. The gross faecal examination revealed small sand particles. The case was diagnosed for sand colic, and was treated as earlier with additional treatment of 100 ml of laxative liquid, lexabulk (Vet Mankind, Pvt Ltd). Gradually colicky signs disappeared. At night, mare passed a lot of gas along with splashing sound followed by tetrahedral small sand-stones (enteroliths) (Photo. 2). On next day morning, the mare appeared alert and active having normal feeding. Although hydration therapy was given along with lexabulk for next two days continuously and the mare recovered uneventfully.

Grazing equines and those managed under field conditions are generally prone to sand colic, sand impaction and enteroliths (Colahan, 1987; Hassel, 2002). Sand is ingested when it becomes mixed with hay fed on the ground, when horses graze grass covered by silt after flood, when they graze the roots and attached soil of plants uprooted in short or overly grazed pastures, and when they drink from shallow muddy pools at the time of unavailability of fresh water (Raofi *et al.*, 1996). Enteroliths are calculi composed of struvite (magnesium ammonium phosphate hexahydrate) that form in the ampulla coli of the right dorsal colon and subsequently cause partial or complete obstruction of the right dorsal, transverse or descending colon. The most devastating aspect of this condition is the potential for pressure necrosis and rupture of the intestinal tract Hassel, 2002). Clinical signs vary in horses with sand impactions and are similar to the signs resulting from impactions of the large colon by ingesta (Schramme, 1995; Synder and Spier, 1996). Ultrasonography and radiography are considered the optimum methods for diagnosis of intestinal sand accumulation. Although not all horses affected by intestinal sand impactions shed sand in the faeces, faecal sand sedimentation is a recognized screening tool for horses suspected to have some degree of intestinal sand (Ruohoniemi *et al.*, 2001). Mild cases of sand colic are commonly treated with non-steroidal anti-inflammatory drugs, mineral oil, dioctyl sodium sulfosuccinate, magnesium sulphate and psyllium mucilloid (Landes *et al.*, 2008; Niinisto *et al.*, 2014). The present case of sand colic in mare was diagnosed after a long course of symptomatic and finally appropriate laxative therapy, and visualizing the stones in excretra.

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