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Clinical Article

SUCCESSFUL SURGICAL MANAGEMENT OF RARE CASE OF OMASO-ABOMASAL OBSTRUCTION IN ADVANCE PREGNANT HOLSTEIN FRIESIAN COW

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SUMMARY

A five year old advance pregnant HF cross breed cow was presented with history of inappetence and absence of defecation since last 5 days with tachycardia, respiratory distress and significant distention of right abdomen. Per rectal examination revealed gas filled loops of intestine into right lateral abdominal cavity. Abdominal ultrasonography showed multiple hypoechoic shadows with non-significant findings. During exploratory right flank laparotomy, obstruction was present at the omaso-abomasal (O-A) orifice due to ball-shaped phytobezors coated with nylon thread material. The foreign bodies were removed via omaso-abomasotomy and surgical wound was closed by double inversion suture pattern. The cow was kept on fluid therapy along with antibiotics and anti-inflammatory therapy for a week and she passed normal faces on next day after surgery and recovered uneventfully.

Keywords: Obstruction, Omaso-abomasal orifice, Phytobezors, Peristalsis and Rumination

The omasum is found on the right side of the cranial portion of the rumen and abomasum receives food from the reticulum through the reticulo-omasal orifice (Sjaastad *et al.*, 2010). Omasum is not an easily accessible or approachable organ via clinical examination because of its topographic location under the costal part of the abdomen (Naeini and Rowshan, 2008). Omasal impaction occurs mostly secondary to rumen impaction due to poor quality feed leading to distension with stagnation of ingesta and absorption of fluid (Singh *et al.*, 2010). The primary cause is excess consumption of poor quality indigestible roughages, inadequate mineral supplementation with restricted access to water. Foreign bodies like phytobezors and accumulation of sand may cause impaction of forestomach in dairy animals (Hussain *et al.*, 2013 and Akraiem *et al.*, 2016). The present paper reports rare case of omaso-abomasal orifice obstruction and its accurate diagnosis and surgical management in advance pregnant HF cow.

A five year old, advance pregnant HF cow, weighing approx. 550 kg body wt. with the history inappetance and absence of defecation which was kept on wheat straw and sugarcane tops was presented. Clinically, animal showed mild depression, normal temperature, suspended rumination and tachycardia (72/min). On palpation, rumen showed slight to moderate doughy consistency. Haematological values like haemoglobin (13.5 g/dL), PCV (31%) and TLC (11.3±0.18× 10^3/µL) were in normal range. Auscultation of lower right abdomen revealed tympanic sound with weak peristaltic movement with moderate distention of right sided abdomen. Per-rectal examination revealed presence of gas filled distended loops of intestine into right abdominal cavity and mucoid debris on sleeves surface. Ultrasonography showed a hypoechoic shadow that could be space occupying mass in the omasum, whilst the normal reticular contour was lost and absence of biphasic contractions during examination indicative of obstructive lesion.

On the basis of history, clinical signs, physical, ultrasonographic and rectal findings, it was decided to go for exploratory right flank laparotomy. The animal was restrained in standing position and inverted 'L' block infiltration was achieved with 2% lignocaine hydrochloride. The standard laparotomy procedure was performed and abdominal viscera were explored gently for any obstruction or mass or lesion. After thorough investigation, there was intra-luminal mass at omaso-abomasal orifice with severe congestion (Fig.1) and brought to the laparotomy wound wrapped in sterile drape. The obstructive mass was fixed between two forceps and nick incision was taken on foreign body (phytobezors wrapped with nylon material) and retrieved with help of curved forceps (Fig. 2). The surgical wound edges was cleaned with normal saline and sutured with help of chromic catgut no. 3-0 by double inversion suture pattern and omentalization was performed.

Postoperatively, cow received 20% Dextrose, Ringer lactate for 5-7 days. Inj. Dicryticine-5 gm, Inj. Conciplex-10 ml intramuscularly for 5 days to combat postoperative infection and pain. She passed normal faeces mixed with mucus on 2nd day postoperatively. After one week of surgery, the cow was gradually shifted to rice bran and green leafy fodder mixed with khadbi chaff and she assumed normal appetite as well as defecation.

Obstruction at the Omasal-Abomasum orifice is a very rare condition and the hypothetical cause could be

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Fig. 1. Intra-luminal mass at Omasoabomasal orifice with severe congestion of serosal layer.

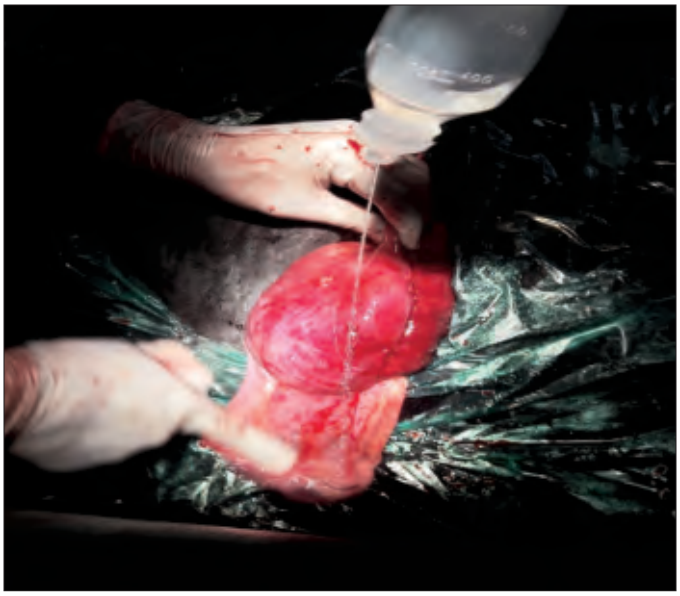

Fig. 2. Omaso-Abomasal (O-A) orifice foreign bodies consist of Phytobezors wrapped with nylon thread material.

hypomotility of the abomasum and omasum. When the motility is inadequate, reduced clearance and accumulation can occur. Besides, the effect of the vagal nerve, large amounts of the VFA in the rumen and abomasum (Gregory and Miller, 1989), endotoxins, metabolic alkalosis (Poulsen and Jones, 1974) and low blood calcium levels (Madison and Troutt, 1988) are mentioned as possible causes for reduction of motility.

Hussain *et al.* (2013) reported that the consumption of wheat straw which is low in both digestible proteins and energy, may contribute to the cause of primary omasal impaction in bovines. In tropical countries omasal impaction is prevalent in cows and buffaloes (Umakanthan, 2002; Toor and Saini, 2008). In this study, dehydration, metabolic alkalosis, hypochloremia, hypokalemia and circulatory insufficiency were the major common findings in cows with Omasum-abomasal obstruction in accordance with Akraiem *et al.* (2016). In present case, the cause of omaso-abomasal obstruction could be due to hypomotility or ruminal impaction and foreign bodies. Singh *et al.*, 2010 stated that, abomasal impaction is seen more frequently in dairy cattle following ingestion of hair balls, polythene bags and other materials. As the cow was kept on low quality feed (wheat bran and sugarcane tops) and free grazing system that might led to ingestion of foreign objects causesing ruminal impaction and eventually intra luminal obstruction at omaso-abomasal orifice.

In conclusion, omaso-abomasal orifice obstruction was due to phytobezors encapsulated with nylon material and removed successfully via omaso-abomasotomy procedure with uneventful recovery.

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