

Surgical Management of Cranial Cervical Esophageal Diverticulum in a Buffalo

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Abstract: A 3 year old female buffalo calf was presented, with the history of anorexia, dysphagia, regurgitation, frothy salivation. On physical examination a soft bulge was observed. Esophagotomy was performed and the contents removed. The contents lodged at the site of diverticulum were mainly the regurgitated ruminal mass. The edges were trimmed with scissors and mucosal layer sutured using 1/0 vicryl. The muscular wall sutured using 10 Vicryl by simple continuous suture pattern. The skin incision was closed in routine manner. The animal recovered without any complication.

Keywords: Diverticulum, esophageal ulcer, choke, buffalo.

INTRODUCTION

An esophageal diverticulum is a blind pouch originated from the main lumen of the esophagus that interferes with the normal esophageal motility pattern. Acquired esophageal diverticulum are subdivided in to either traction or pulsion form. Pulsion type diverticula develops as a result of foreign body obstruction of the esophagus [1], inflammation or increase in intraluminal pressure, Abnormal regional esophageal motility or when normal peristalsis is obstructed by a stenotic lesion. Deep traumatic ulceration after manual removal of the foreign body is also responsible for formation of acquired diverticula. Esophageal diverticulum is the second most common esophageal disorder in bovines followed by extra-esophageal lesions, dilatation and perforation [2]. Diverticulum can easily be diagnosed by endoscopy, ultrasonography and radiography [3]. The radiological examination of the esophagus must include both survey and contrast radiographs. Survey radiographs are of little importance in cases of diverticulum. Diverticulum can be detected easily by contrast radiography. The present report describes a case of cranial esophageal diverticulum in a buffalo calf.

CASE HISTORY

A 3 year old female buffalo calf was presented to the polyclinic Indian Veterinary Research Institute, with the history of anorexia, dysphagia, regurgitation, frothy salivation. The condition of the animal has deteriorated day by day. On physical examination a soft bulge was observed (Figure 1). The animal was examined plain radiography.



Figure 1: Arrow showing the bulge on ventral neck region (middle-caudal part).

Surgical Treatment

The animal was physically restrained in right lateral recumbency. The anesthesia was achieved by local infiltration of 2% lignocaine hydrochloride. After aseptic preparation of the site an incision was made over the skin. After blunt dissection, esophagus was separated (Figure 2). At the site of bulge, the esophagus was observed dilated. The sac was identified as an esophageal traction diverticulum. The esophagotomy was performed and the contents removed. The contents lodged at the site of diverticulum were mainly the regurgitated ruminal mass (Figure 3). The edges were trimmed with scissors and mucosal layer sutured using 1/0 vicryl. The muscular wall sutured using 10 Vicryl by simple continuous suture pattern. The skin incision was closed in routine manner. Solid as well as Liquid feed was withheld for 2 days and parental administration of DNS was recommended. Post-operative treatment included parental administration of DNS, broad spectrum antibiotic and Meloxicam were

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given intramuscularly for 5 and 3 days respectively. Antiseptic dressing of the suture line was done by povidone-iodine.



Figure 2: Incision on ventral neck region over the bulge and blunt separation of esophagus.



Figure 3: Mass (ruminal regurgitate) that was logged in the diverticulum.

RESULTS AND DISCUSSION

Caudal cervical and thoracic esophageal diverticulum has been previously reported in large animals [4] but reports on cranial cervical diverticula are scarce. Singh and Singh [5] have recorded cervical esophageal diverticula in bovines. However, Verschooten and Oyart [6] recorded diverticulum in both cervical and thorax region of esophagus but more common in thoracic cavity. Singh and Singh [5] observed that this disorder was more common in adult she buffalo. In the present case, middle to caudal third of esophagus was involved. Dilatation of the esophagus may be due to accumulation of food material just anterior to the stricture of esophagus,

foreign body obstruction, inflammation, increase in intraluminal pressure, abnormal regional esophageal motility or deep traumatic ulceration. In the present case, no stricture or foreign body was observed in the esophagus. However, a large sized ulcer was observed (Figure 4) and that might be the cause for interrupting peristalsis and subsequently creating diverticulum in the esophagus.



Figure 4: Esophageal mucosal ulceration.

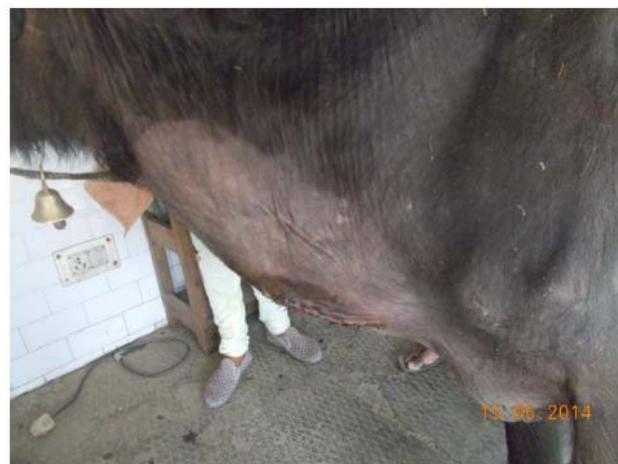


Figure 5: Postoperative view of ventral neck.

The diverticulum was treated by esophagotomy and subsequent trimming of edges for proper closure esophagus to appropriate lumen size. The procedure has been associated with postoperative complications such as infection and dehiscence [7]. However, in present case no complication was noted and the animal regained its normal way of eating and drinking.

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