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Minimal invasive management of choke in two buffalo calves

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Abstract
Two Mehsana buffalo calves aged 6 (female) and 7 (male) days were presented with a history of regurgitation immediately after suckling since 4 days. On oesophageal palpation, mild swelling was noted beyond the mid cervical region. A barium contrast radiography was planned to diagnose the condition in both cases. It revealed partial radiolucency in female calf and complete accumulation of barium sulphate in male calf below the 6th cervical region of the oesophagus which was suggestive of partial or complete choke. Thereafter lubricated equine stomach tube was passed into the oesophagus, which showed moderate resistance at above mentioned region in both cases. Then a little more pressure was applied, and obstructed material was successfully pushed into the stomach. Again, a barium contrast radiography was conducted, which revealed normal patency of the oesophagus. Antibiotic, analgesic and antihistaminic drugs were given in both cases. As per a telephonic talk with both owners, the suckling was normal, and to date, no complications have been observed. Barium contrast radiography was proved easy, quick, and precise method of diagnosis, particularly in small buffalo calves.

Keywords: Barium contrast radiography, buffalo calf, choke

Introduction
Oesophageal obstruction, commonly referred to as choke, is an important clinical condition encountered in bovine practice and is characterized by partial or complete blockage of the oesophageal lumen (Radostits *et al*., 2007) [3]. Although choke is more frequently reported in adult cattle due to rapid ingestion of coarse feed, it also occurs in neonatal calves, where it is often associated with foreign body ingestion, improper suckling, or congenital narrowing of the oesophagus (Smith, 2015) [4]. Early recognition and timely intervention are critical, as obstruction may interfere with normal swallowing, lead to regurgitation, dehydration, aspiration pneumonia, and in severe cases, oesophageal rupture (Constable *et al*., 2017) [1].
Barium contrast radiography is a reliable and practical method for clearly identifying the site and severity of obstruction (Fubini & Ducharme, 2017) [2]. Initial management typically involves non-invasive relief using a gently advanced, lubricated stomach tube, a technique widely recommended for its simplicity, effectiveness, and low risk of complications when performed properly (Smith, 2015; Fubini & Ducharme, 2017) [4, 2].

History and Clinical Observation
Two buffalo calves (a six-day-old female and a seven-day-old male) were presented to the Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal, Kamdhenu University, Sardarkrushinagar, with a primary complaint of regurgitation immediately after suckling, repeated attempts to swallow, occasional salivation, and discomfort during feeding. The onset of regurgitation was reported four days prior to the presentation in both calves.
On general clinical examination, all physiological parameters, including body temperature, heart rate, and respiratory rate, were found to be within the normal reference range. The conjunctival mucous membranes appeared normal.

Upon careful palpation of the cervical oesophagus, a mild, localized swelling was detected in both calves, positioned slightly caudal to the mid-cervical region.

Based on the history and physical findings, a barium contrast radiography was planned to confirm the site and severity of oesophageal obstruction (choke). Radiographic evaluation following administration of barium sulphate suspension revealed a partial radiolucent obstruction below the level of the 6th cervical vertebra in the female calf. In the male calf, the barium study demonstrated a complete accumulation of barium sulphate at the same anatomical region, indicating a complete oesophageal obstruction. The radiographic findings confirmed the diagnosis of choke involving the cervical oesophageal segment in both calves, with differing degrees of luminal occlusion.

Minimal-invasive management

Both calves were restrained in lateral recumbency to ensure adequate control. The oral cavity was carefully opened using a mouth gag. A well-lubricated equine stomach tube was gently introduced into the oral cavity and advanced into the oesophagus. During passage of the tube, moderate resistance was encountered at the previously identified obstructed region in both calves, consistent with the radiographic findings from the barium swallow study. With steady and controlled pressure, the tube was advanced further, allowing the lodged material to be carefully dislodged and pushed into the rumen. Care was taken to avoid excessive force to prevent oesophageal mucosal injury or perforation.

Following the procedure, a repeat radiographic evaluation was performed to confirm the outcome. The post-procedural radiographs demonstrated complete restoration of oesophageal patency, with no evidence of residual obstruction, confirming successful non-invasive relief of the choke. Both calves were then placed on supportive medical therapy to prevent secondary infection and reduce inflammation. Inj. Enrofloxacin @ 5 mg/kg b. wt., Inj. Meloxicam @ 0.2 mg/kg b. wt. and Inj. Chlorpheniramine maleate @ 0.25 mg/kg b. wt. were administered intramuscularly up to three postoperative days.

Both calves were monitored closely for signs of regurgitation, dysphagia, discomfort, or recurrence of obstruction. A soft, easily digestible liquid diet was provided for 48 hours post-treatment to allow adequate restoration of the oesophageal mucosa.

Results

Post-non-invasive management, both buffalo calves showed an immediate improvement in their ability to swallow. During follow-up conducted through a telephonic conversation with the owners, it was reported that both calves resumed normal suckling behaviour within a few hours of the procedure. No complications such as dysphagia, oesophagitis, bloat, or recurrence of obstruction were observed in the days following treatment. These findings confirm the successful outcome of non-invasive oesophageal obstruction management in neonatal buffalo calves.

Discussion

In the present cases, the clinical signs-regurgitation immediately after suckling, salivation, and mild swelling of the cervical oesophagus-were similar as suggested by Radostits *et al*., 2007 [3]. The barium contrast radiography proved to be a highly reliable diagnostic tool, providing clear localization and determining the severity (partial vs. complete obstruction) as supported by Constable *et al*. (2017) [1], who emphasize contrast radiography as the gold standard for diagnosing oesophageal blockage. Non-invasive management by gently advancing a lubricated stomach tube remains the first line of treatment for choke in bovines. This approach is widely recommended because it is simple, effective, and avoids risks associated with surgical intervention. The successful dislodgement of the obstruction in both calves aligns with the treatment guidelines as described by Smith (2015) [4] and Fubini & Ducharme (2017) [2].

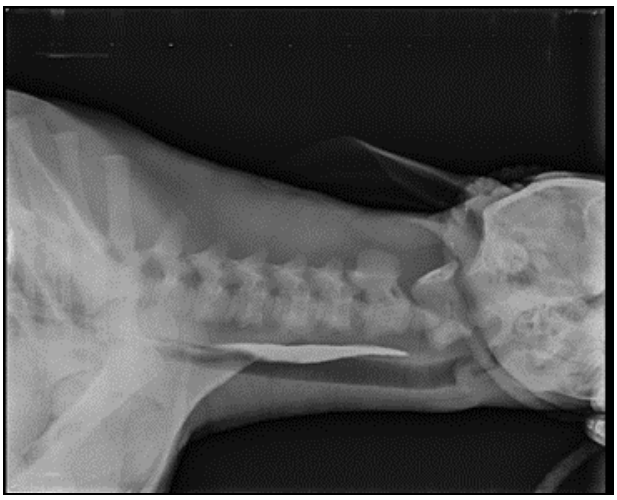

Fig 1: Partial radiolucency below the 6th cervical region of the oesophagus in a female buffalo calf

Fig 2: Complete accumulation of barium sulphate below the 6th cervical region of the oesophagus in a male buffalo calf

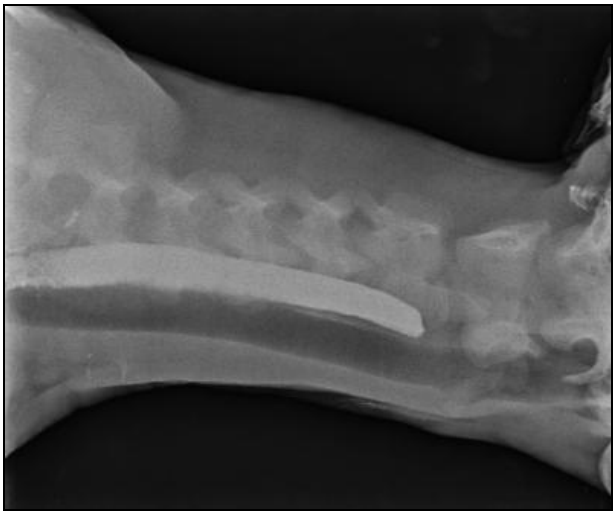

Fig 3: Complete restoration of oesophageal patency after relieving choke

Fig 4: Normal suckling was observed after relieving the choke

Conclusion

The present report demonstrates that barium contrast radiography is an easy, quick, and highly reliable diagnostic tool for identifying oesophageal obstruction in young buffalo calves. Early diagnosis through contrast radiography, followed by prompt non-invasive management using a lubricated stomach tube, resulted in complete relief of the obstruction in both cases without complications.

Conflict of Interest

Not available

Financial Support

Not available

Reference

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