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Case Report

Buffalo Pulmonary Challenge: A Case Report On Aspiration Pneumonia

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Abstract

Many farmers use a large variety of drenching medications and supplements for the prevention or cure to medications to prevent or cure diseases. Inappropriate administration or improper drenching technique of medication for illness by an inexperienced person is the most common cause of aspiration pneumonia. A Murrah buffalo reported in the Veterinary Clinical Complex of PGIVER JAIPUR with a history of parturition 9 days ago, inappetence, nasal discharge, salivation, coughing, pyrexia, open mouth breathing, and reduced milk yield following a drenching of liquid medication (liver tonic). Clinical examination revealed a high body temperature of 104.4 ℉, purulent nasal discharge, coughing, dyspnea, congested mucus membrane, and open mouth breathing. Thoracic auscultation revealed crackling lung sounds in the antero-ventral part of both lungs. Hematology showed neutrophilic leukocytosis. The animal recovered well after treatment with ceftiofur sodium, meloxicam, etophylline and theophylline, chlorpheniramine maleate, vitamin B-complex, herbal caflon powder, and steam of turpentine oil.

Keywords: Aspiration Pneumonia, Drenching, Ceftiofur Sodium.

Introduction

Inflammation of lung parenchyma is called pneumonia, often accompanied by inflammation of the bronchiole and pleurisy. It is clinically manifested by an increase in respiratory rate, change in the depth of respiration, coughing, and abnormal breathing sounds on auscultation. Based on the etiology, pneumonia may be of various types viz. bacterial, viral, mycoplasmas, parasitic, aspiration, allergic, hypoplastic, etc. Among all other diseases, pneumonia causes high mortality in animals (Constable *et al.* 2017). Aspiration pneumonia occurs due to broncho aspiration of feed, gastric contents, or improper drenching of medicines. Farmers commonly employ a diverse range of liquid supplements or medicinal drenches to prevent or treat diseases in their livestock. The leading cause of aspiratory pneumonia often stems from inexperienced individuals administering medication for various illnesses inappropriately or using improper drenching techniques. Various causes like dysphagia or regurgitation, can lead to aspiration pneumonia (Thangapandiyan *et al.,* 2023). It is essential to ensure that liquids administered through a drench or dose syringe match the animals' swallowing capacity and extra caution is required during drenching when the animal's tongue is extended, the head is raised, or the animal is coughing or bellowing.

History and Diagnosis

A Murrah buffalo of 8 years of age was presented to the Veterinary Clinical Complex of PGIVER JAIPUR with a history of parturition 9 days ago, inappetence, nasal discharge, salivation, coughing, pyrexia, open mouth breathing, and reduced milk yield. Upon further questioning, it was revealed that the farmer in question had forcibly administered a commercially available liver tonic of approximately 300 ml to the buffalo a day earlier, following the advice of an unqualified veterinary practitioner., and subsequently the cow had leaped while administering the drench and began coughing. Clinical examination revealed a high body temperature of 104.4°F, purulent nasal discharge, coughing, dyspnea, congested mucus membrane, and open mouth breathing. The respiratory rate was 28/min and the heart rate was 78/min. The animal showed a painful expression with open-mouth breathing (Fig. 1) and bilateral mucoid/purulent nasal discharge (Fig.2). Thoracic auscultation revealed crackling lung sounds in the antero-ventral part of both lungs. Blood examination showed neutrophilia along with leukocytosis (Hb- 8.9 g/dl, TLC- 22,520/µl, N- 84/µl, L-9/µl, E- 9/µl and PLT- 316 $\times 10^3$/µl).

Fig 1: Animal showed painful expression with open mouth breathing

Treatment and Discussion

On the basis of history, clinical examination and hematological findings, the case was diagnosed as aspiration pneumonia and appropriate treatment was administered. The therapy was initiated with Inj. Ceftiofur sodium 1 gm IM BID × 5 days, Inj. Deriphylline® (etophylline and theophylline) 10ml IV OD × 5 days, Inj. Chlorpheniramine maleate 10ml IM OD × 5 days, Inj. Meloxicam 15 ml IM OD× 5 days, Inj. Vitamin B-complex (Belamyl®) 10ml IM OD × 5 days, Pow. Caflon 50gm PO OD × 5 days and steam of turpentine oil for a week. On the third evening,

the body temperature normalized to 102 °F and respiratory distress began to gradually resolve. By the fourth day of treatment, parameters such as dyspnea and nasal discharge had returned to normal levels. After five days, the cow exhibited a good appetite, and respiration nearly normalized, though slight coughing persisted. Hematological findings indicated a decrease in TLC levels to 12990/µl. The farmer was advised to continue antibiotic and antihistamine treatment for the next three days with a follow-up after five days. A week later, the farmer reported that the cow had fully recovered. The clinical symptoms observed in this study align with the findings of Smith *et al.* (1969); Scott, (2012) and Dhillon *et al*. (2020). The neutrophilic leukocytosis noted in this case correspond with the report by Constable et al. (2017).

Despite the poor prognosis associated with aspiration pneumonia, this case could be the same, due to acute/early stage of infection and sufficient aspirated material in lungs. However, with timely and appropriate intervention, reduced the severity of aspiration pneumonia in this case leading to a better outcome. Early recognition and treatment are crucial in managing the condition effectively, which can significantly improve the chances of survival. In many instances, prompt medical attention can prevent the progression of the disease, underscoring the importance of swift and adequate response in such cases.

Conclusion

Antibiotics (Ceftiofur sodium) and NSAIDS (Meloxicam), antihistamine (Chlorpheniramine maleate) were successfully used in the therapeutic management of buffalo with aspiration pneumonia. Careful drenching of medication is done to prevent such events. Turpentine oil steam is traditionally used in the management of respiratory conditions like pneumonia due to its expectorant and decongestant properties. Inhalation of turpentine oil steam can help loosen and thin mucus in the airways, making it easier to expel.

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Contribution by Authors

Equal contribution. All authors declared that ‘written informed’ consent was obtained from the approved parties for the publication of this article and accompanying images.

Conflict of Interests

There is no conflict of interest.

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