RESEARCH PAPER | Veterinary Science | Volume : 4 | Issue : 9 | September 2014 | ISSN - 2249-555X

Pathological Lesions of Aspiration Pneumonia in Malabari Goats With Moneiziasis

KEYWORDS: pathological lesions, aspiration pneumonia, malabari goats

Prasanna. K. S.

Department of Veterinary Pathology, College of Veterinary and Animal Sciences, Pookode, Lakkidi, Wayanad-673576

ABSTRACT *Respiratory diseases complicated by multiple bacterial and viral infections are common in goats. At many instances these lead to death of affected ones in untreated cases. Occasionally sudden death can also be caused by faulty drenching and subsequent aspiration of irritant chemicals and development of pneumonia. Moneziasis is a recurrent problem in management of Malabari goats. Aspiration pneumonia develops when vomitus or regurgitus enters the trachea and bronchioles and end up in pneumonia. Acute cases of pneumonia in goats are rarely diagnosed as aspiration pneumonia as the pathological lesions are rarely studied.*

INTRODUCTION

Goat as poor man's cow, is popular in rural areas for both milk and meat production. Respiratory difficulties in goats often gets complicated by organisms like Pasteurella leading to death (Brogden, et al., 1998). Prevalence of pneumonia and other lung lesions cause reduction in growth of lambs (Daniel, 2006). Aspiration pneumonia can be iatrogenic with development of disease during drenching of medicine for an extra pulmonary disease. It can also occur due to aspiration of vomitus or regurgitated materials into the lungs. This is a report of sudden death in Malabari goats followed by aspiration of medicinal fluid drenched for treating Monezia infestation.

MATERIALS AND METHODS

Carcasses of three adult female Malabari goats were brought for postmortem examination to the Department of Veterinary Pathology, Pookode, Wayanad. The owner reported sudden death of the animals after showing respiratory distress.

RESULTS

The three Malabari goats were having diarrhoea which did not respond to antibiotics or anticoccidial drugs. The carcass was emaciated with papery white visible mucous membranes.

Lungs were wet, swollen and diffusely pale to dark red in colour. Cut surface showed frothy dark fluid exuding out and bronchi with dark green crystalline contents at their bifurcation and in the smaller airways (Fig. 1). The cardiac ventricles were bilaterally dilated with mural thrombus adhering to the ventricular wall. Petechial hemorrhage was observed on the right endocardium. Liver was enlarged, soft and pliable with impressions of the sternal ribs on the dorsal surface (Fig. 2). Intestine was packed with five to six, 3-4m long adult tape worms of *Moniezia expansa*.

Histopathology of lungs reveled acute bronchiolitis and alveolitis. Most of the alveolar epithelial cells were degenerated and necrosed. Some alveoli and bronchioles contained eosinophilic exudates and polymorphic nuclear cells (Fig. 3). Distended capillaries were engorged with blood and the alveoli filled with serous exudate. Sub pleural areas and lung parenchyma showed scattered foci of hemorrhage (Fig. 4). In liver, the hepatocytes were degenerated with cloudy swelling. Focal areas of necrosis of hepatic parenchyma were observed in the midway between periphery and center of the lobule.

DISCUSSION

Aspiration pneumonia could be caused by regurgitated material getting aspirated into lungs (Lopez, 2012). The severity of lesions depended on the chemical and microbiologic composition of the aspirated material. In this case the animals were drenched with copper sulfate solution for treating monezia infestation. The irritation caused by chemical used as medicines could cause pneumonitis and septic shock leading to death of the animals (Lopez, 2012). In severe cases pulmonary necrosis may get complicated by infection with saprophytic organisms (Ackermann and Brogden, 2000). Irritation by the entry of chemical substances, can cause formation of foreign body giant cells in the lungs. It can also lead to fibrinous bronchopneumonia due to the endothelial damage caused by irritant materials (Kogan et al., 2012). Clinical diagnosis of aspiration pneumonia is possible by radiographic and computed tomographic evaluation of lungs (Eom et al. 2006).

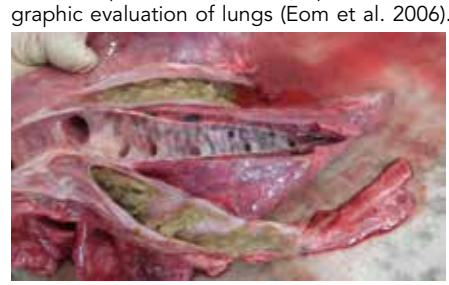

Fig. 1. Thick greenish aspirated medicinal contents filling the bronchi.

Fig. 2. Enlarged liver showing impressions of sternal ribs on its dorsal surface.

Volume : 4 | Issue : 9 | September 2014 | ISSN - 2249-555X

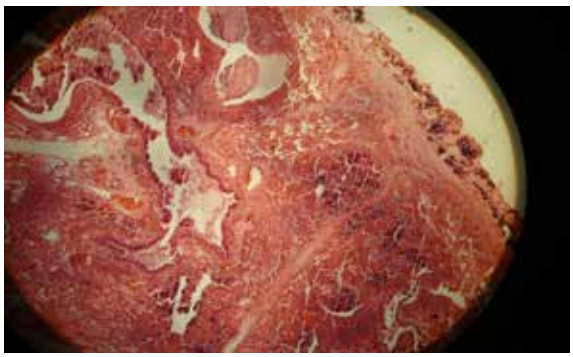

Fig. 3. Lung. Micrograph showing alveoli and bronchioles with eosinophilic exudates and polymorphic nuclear cells. Distended capillaries engorged with blood. H&E 100x.

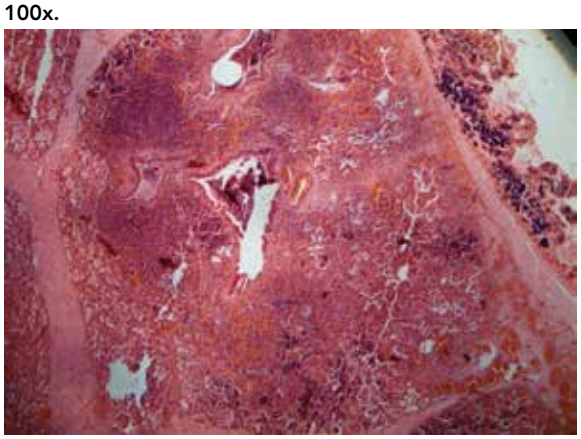

Fig. 4. Lung. Sub pleural hemorrhage, fibrinous exudate in bronchioles and alveoli. H&E 100x.

CONCLUSION

Sudden death in goats is mostly attributed to infectious causes like bacteria or virus. Though a major problem in management of sheep and goats, documentation on pathological lesions in aspiration pneumonia is comparatively less in literature. Apart from infectious causes, sudden death in goats can also be resulted due to aspiration pneumonia caused by the drenching of fluid medicine for the treatment of diseases.

REFERENCE

1. Ackermann, M. R. & Brogden, K. A. (2000). Responses of the ruminant respiratory tract to Mannheimia (Pasteurella) haemolytica. Microbes and Infection, 2(9): 1079-1088. | 2. Berge A. C., Sischo, W. M., & Craigmill, A. L. (2006). Antimicrobial susceptibility patterns of respiratory tract pathogens from sheep and goats. Journal of the American Veterinary Medical Association, 229(8): 1279-1281. | 3. Brogden, K. A., Lehmkuhl, H. D., & Cutlip, R. C. (1998). Pasteurella haemolytica complicated respiratory infections in sheep and goats. Veterinary Research, 29(3-4): 233-254. | 4. Daniel, J. A., Held, J. E., Brake, D. G., Wulf, D. M., & Epperson, W. B. (2006). Evaluation of the prevalence and onset of lung lesions and their impact on growth of lambs. American Journal of Veterinary Research, 67(5) : 890-894. | 5. Eom K, Seong Y and Park H. (2006). Radiographic and computed tomographic evaluation of experimentally induced lung aspiration sites in dogs. J Vet Sci. 7: 397. | 6. Kogan DA, Johnson LR, Jandrey KE, et al. (2008). Clinical, clinicopathologic, and radiographic findings in dogs with aspiration pneumonia: 88 cases (2004-2006). J Am Vet Med Assoc. 233: 1742. | | 7. Lopez, A. (2012). Respiratory system, media stinum and plurae. In Pathology of domestic animals, Zachary, J.F. and Mc Gavin, M. (Eds), 5th ed, Elsevier, China, pp. 458-465 |