



International VETEXPO-2019 Veterinary Sciences Congress
September 20-22 2019. Double Tree by Hilton Hotel, Avcilar /Istanbul, Turkey

Invited presentation

Pathology of respiratory system in cattle

Ahmet Gülçubuk

Istanbul University-Cerrahpasa Veterinary Faculty, Department of Pathology, Avcilar, Istanbul, Turkey

Abstract

The most important pathology of respiratory system in domestic animals is pneumonia, which is common in cattle because of their special anatomical properties. Lung lobules in cattle are completely separated from each other, because of that reason collateral ventilation cannot be possible. Pneumonia occurs more severe due to the difficulty in resolving the exudate caused by the absence of collateral ventilation. Pneumonia is the most important cause of death in cattle, especially in weaning calves. The mortality rate is more higher in calves that don't take colostrum. The proportion of respiratory diseases in the cattle population in our country varies between 22-59.7%, deaths due to the same cause in feeder cattle ranges between 50-70%. Predisposing and constructive factors play a role in the occurrence of pneumonia. The stress conditions that occur especially during transportation, crowded herds, weaning, castration and horn cutting are the predisposing factors. Bacterial, viral, parasitic and mycotic agents play role in constructive factors. Serotypes A1 and A6 of *Mannheimia haemolytica* are the most lethal pathogens of lobar pneumonia (fibrinous pneumonia) in cattle. In addition to *Pasteurella multocida* type B and E and *Histophilus somni*, *Mycoplasma bovis* and *Mycoplasma dispar* are the other important pathogens of the pneumonia. Although pathogens of pasteurella and mycoplasma species can cause fibrinous pneumonia, they may also lead to enzootic pneumonia as secondary infection following viral infections that are in fact important. Enzootic pneumonia of calves; is a highly lethal disease complex seen in the animals exposed to indoor housing with high stocking density and it is caused by synergistic effects of two or more viruses, mycoplasma, and bacteria. Viral agents in bovine pneumonia include bovine respiratory syncytial virus (BRSV), bovine parainfluenza-3 viruses, infectious bovine rhinotracheitis (IBR), bovine viral diarry (BVD) and adenoviruses. Severe fibrinonecrotic pneumonia, adhesive pleuritis, and neutrophil leukocytes appearing as "oat cells" are in the foreground in lethal lobar pneumonia caused by *Mannheimia haemolytica serotype A1*, however, fibrinonecrotic pneumonia is seen less severe in *Pasteuralla multocida*. Fibrinonecrotic pneumonia and vasculitis are in the foreground in *Haemophilus somnus*. In addition to the occurrence of fibrin, peribronchial lymph node hyperplasia (cuffing pneumonia) and atelectasis are important in mycoplasma pneumonia. In this presentation, it is aimed to represent macroscopic and microscopic findings and differential diagnosis of important bacterial and viral pneumonia in cattle .

Keywords: respiratory, pneumonia, cattle