Therapy of Bovine Respiratory Disease

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This presentation will use videos of calves being evaluated for bovine respiratory disease combined with immediate euthanasia to evaluate lung pathology. Attendees will have the opportunity to score the calves based on the video and predict lung pathology based on clinical presentation. The publication process limits this proceedings to only an abstract.

The objectives of the study were to evaluate (1) bacterial pathogen isolates in different locations in the respiratory tract, and (2) pathogen load in clinically ill and clinically normal calves. One hundred ninety four steers, bulls, and heifers weighing 182-318 kg were purchased at an Arkansas sale barn from multiple sources and shipped 12 hours to a northern Kansas feedlot the following day. The cattle had been delivered to the sale barn within the 24 hour period prior to the sale. Fifteen calves were identified with signs of acute bovine respiratory disease (BRD) based on clinical score and a minimum rectal temperature of 40° C. An additional 5 calves with no clinical signs and rectal temperatures < 40° C were selected as controls. Cattle were humanely euthanized following recording of antemortem clinical observations. At postmortem, samples for microbiologic analysis were collected from grossly normal and/or consolidated tissue in each lung lobe. Samples were also collected from the tonsils and trachea. Quantification of the BRD pathogens per gram were determined for each positive site and then converted to total counts for each animal. Total colony forming units (CFU) of pathogens in lungs of cattle with both pure and mixed infections ranged from $2 \times 10^7$ – $2 \times 10^8$ CFU for *Pasturella multocida* and $9 \times 10^6$ – $9 \times 10^8$ CFU for *Mannheimia haemolytica*. Total visual estimated percent consolidation ranged from 0.0% to 45.0% of the lungs. Pathogens isolated from the upper and lower respiratory tract were compared and found to have varying degrees of agreement.