

Clinical and subclinical diseases predisposing to Johne's disease in dairy cattle.

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The objectives of this study were to identify associations between clinical or subclinical diseases and risk for subsequent occurrence of clinical Johne's disease (JD) and onset of fecal shedding after 305 days in milk (DIM). A total of 1,297 cows from two Minnesota dairies were enrolled in the study. From study cows, fecal samples were obtained prior to calving and after at least 305 DIM or at time of leaving the herd (sold/dead). Between 3-21 DIM, blood samples were obtained for serum Betahydroxybutyrate (BHB) and serum total protein testing. Body condition score (BCS) was evaluated during the closeup period, between 3-21 DIM, and at end of lactation. The occurrence of clinical disease events (pneumonia, milk fever, retained placenta, metritis, ketosis, displacement abomasum, lameness, mastitis, and JD clinical signs) was recorded. Average DIM when cows with JD clinical signs (JDCS) were culled (n=66) was 209. From multivariable analysis, occurrence of JDCS was associated with occurrence of pneumonia (OR=2.6, 95% CI= 1.2-6.0) and level of fecal shedding (light: OR=13.0, 95% CI=5.3-30.0; moderate: OR= 33.0, 95% CI=13.0-85.0; heavy: OR=63.0, 95% CI=25.0-162.0). From multivariable analysis, onset of fecal shedding at the end of lactation was associated only with occurrence of pneumonia (OR=2.2, 95% CI=1.1-4.2). These results provide insights into the potential risks of disease occurrence on the incidence of JDCS and fecal shedding, which may enable management of the cows to reduce Johne's disease and fecal shedding.