A Randomized and Blinded Field Trial to Assess the Efficacy of an Autogenous Vaccine to Prevent Naturally Occurring Infectious Bovine Keratoconjunctivis (IBK) in Beef Calves

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Introduction

A randomized and blinded 2-arm parallel trial was conducted to assess the efficacy of an autogenous vaccine to prevent naturally occurring infectious bovine keratoconjunctivis (IBK) in beef calves.

Materials and Methods

The trial was managed between May and November 2008 on university owned farms in Iowa and Wisconsin. The vaccine at Iowa contained *Moraxella bovoculi* (*M. bovoculi*) while the organism used in the Wisconsin herds vaccine was *Branhemella ovis* (*B. ovis* renamed *M. ovis*). Calves born between January and May 2008 without visible corneal lesions were randomized to receive an autogenous vaccine or placebo vaccine using a computer generated sequence. Two subcutaneous doses were administered 21-28 days apart. Allocation to treatment was concealed using bottles marked A or B. Staff were blind to the treatment allocation. The primary outcome was IBK cumulative incidence over the study period. The secondary outcome was weaning weight.

Results

Only the Iowa herd met the criteria for an "at-risk" herd i.e. > 15% IBK in unvaccinated calves and *M. bovoculi* isolation from IBK cases. Analysis was "per-protocol". The cumulative incidence of IBK was 47/105 in vaccinated calves and 49/109 in unvaccinated calves (unadjusted odds ratio = 0.99, 95% CI: 0.58 to 1.70). Weight at weaning did not differ between the vaccinated cohort 148 kg (SD: ±27) and unvaccinated cohort 146 kg (SD: ±26) (unadjusted $\beta = 1.5$ and 95% CI: -5.5 to 8.6).

Significance

Results indicate that the autogenous vaccine was ineffective in this study population.