drome. Presentation of this disease has been sporadic in morbidity, with mortality of affected animals approaching 85-100% due to its peracute nature and severity.

The Veterinary Diagnostic and Production Animal Medicine Department of the Iowa State University College of Veterinary Medicine received a call from a Northeastern Iowa veterinarian in April 1999 to investigate recurring sporadic peracute death losses. Examination of production records, rations and post-mortem results led investigators to conclude that a variant of *Clostridium perfringens*, specifically type A should be considered as a possible agent in the presentation of this disease syndrome. Evidence is presented for incrimination of *Clostridium perfringens* type A, including isolation from clinical cases and feed.

Recommendations for investigation of a problem herd are discussed. Our findings suggest that the historical increases in milk production associated with the dairy industry's increases in ration density, as well as overt contamination of haylage, may be creating a new "niche" opportunity for an organism previously considered non-pathogenic.

Field Trial of Intrauterine Antibiotic or Prostaglandin for Treatment of Clinical Endometritis in Dairy Cows

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Introduction

Endometritis is a localized inflammation and/or infection of the uterus characterized by sub-involution of the uterus, and associated with chronic bacterial uterine infection and purulent uterine discharge. Diagnosis and treatment of endometritis are a source of controversy, fueled by a lack of large-scale clinical trials with an objective case definition and economically meaningful outcomes. The objective of this study was to compare the effect on reproductive performance of two common approaches to the treatment of endometritis.

Materials and Methods

On 28 farms, 1910 cows were routinely examined once between 20-33 days in milk (DIM). Every cow received a vaginoscopic examination, followed by rectal palpation of the reproductive tract for collection of objective data. Endometritis was diagnosed on the basis of vaginoscopy (clinical case=visible mucopurulent or purulent discharge), and cows were randomly assigned to receive one intrauterine infusion of antibiotic (cephapirin benzathine, Metricure®); one injection of prostaglandin F2α (cloprostenol, Estrumate®); or no treatment. Survival analysis was used to model time-to-pregnancy for all cows, accounting for cows that failed to become pregnant.

Results and Conclusions

Among examined animals, 391 cows (21%) had visible purulent discharge that significantly increased time to pregnancy relative to normal cows. The effect of treatment depended on DIM and presence of a corpus luteum (CL) at treatment. Between 20 - 26 DIM, neither treatment was able to mitigate the effect of endometritis. In cows with endometritis that had a palpable CL, there was no difference in time to pregnancy between those treated by infusion and those treated with prostaglandin. Between 27 - 33 DIM, cows with endometritis treated with Metricure tended to have a higher pregnancy rate than untreated controls. The difference in pregnancy rate between cows treated by infusion and cows treated with prostaglandin was not statistically significant. Selection of therapy for endometritis should be based on cost, DIM, and assessment of cyclicity. Examination and treatment for endometritis should not begin until four weeks postpartum to allow spontaneous resolution to occur.

Table 1. Summary of the effect of treatment of endometritis on time-to-pregnancy (pregnancy rate relative to untreated controls, adjusted for herd, parity group and ovarian structures)

	Endometritis 20-26 DIM		Endometritis 27-33 DIM	
n	237		141	
Treatment	RR Pregnancy	P value	RR Pregnancy	P value
IU antibiotic	1.01	.96	1.63	.07
Prostaglandin	0.94	.72	1.18	.52
P value for contrast between treatments	.68		.19	

Efficacy of Ceftiofur Hydrochloride Administered Parenterally for Five Consecutive Days for Treatment of Acute Post-partum Metritis in Dairy Cows

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Introduction

The objective of this study was to evaluate under clinical, field conditions the efficacy of ceftiofur hydrochloride [HCl] as EXCENEL® RTU Sterile Suspension administered parenterally at doses of 1.1 or 2.2 mg ceftiofur equivalents (CE)/kg body weight (BW; 0.5 or 1.0 mg CE/lb BW) for five days for the treatment of acute post-partum metritis in dairy cows.

Materials and Methods

The study was conducted during 2000 at eight commercial dairies in the United States using a common protocol. Dairy cows (n=406), 1 to 14 d post-partum, with rectal temperature (RT) ≥ 103°F (39.5°C) and a fetid vaginal/uterine discharge (FD) were enrolled. Eligible cows were assigned randomly in blocks to three treatment groups: saline control, or ceftiofur HCl at either 1.1 mg or 2.2mg CE/kg BW administered SC or IM for five days [study day (SD) 1 = day of enrollment/first day of treatment]. Cows were administered supportive fluid therapy and/or escape therapy at the discretion of the investigator. On SD 6, 10 and 14, each cow was examined, rumen contractions (RC), heart rate (HR), and scleral injection (SI) and dehydration score (DS) were recorded and cows determined to be "cured" or "failed to cure."

Cured was defined as not receiving escape therapy, and RT < 103°F (39.5°C) and absence of FD. Failed to cure was defined as receiving escape therapy and/or RT ≥ 103°F and/or presence of FD.

Rectal temperature was taken on SD 1-6, 10 and 14. Cure rates were statistically analyzed, sequentially, on SD 14, then 10, then 6 and if statistical superiority was detected for a treatment group relative to control, the analyses for that treatment was stopped. Rectal temperature also was analyzed. Protocol deviations or missing observations resulted in 353, 363 and 362 cows included in analyses on SD 6, 10 and 14, respectively.