

FARM EFFECT ON TREATMENT EFFICACY OF SUBCLINICAL ENDOMETRITIS IN DAIRY COWS

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The objective of this study was to examine farm effect on treatment efficacy of subclinical endometritis. Clinically normal cows (n=228), based on vaginoscopy, at 20-33 DIM from 2 farms were enrolled. A thorough reproductive exam included per-rectal palpation, ultrasonography and endometrial cytology (EC). EC samples were collected from the base of the larger uterine horn using a cytobrush (Fishers Scientific Ltd.). EC slides were prepared by rolling the cytobrush on a microscopic slide, fixing with cytofixative (Cytoprep[®], Fishers Scientific Ltd.) and staining with modified Giemsa stain (Protocol-Hema3[®], Biochemical Sciences Inc.). The percentage neutrophils (%PMN) was determined by counting a minimum of 100 cells at 400X. Cows were randomly assigned at enrolment to receive one of three treatments: a single IM injection of 500µg cloprostenol (CLO) (Estrumate[®], Schering-Plough), a single intrauterine infusion of 500mg cephapirin benzathine (CEP) (Metricure[®], Intervet Canada Ltd.) and untreated control (CON) at enrolment. Uterine and cervical size, ovarian status, %PMN, calving season, parity, and history of peripartum events were included in the analysis. Analysis was performed using PHREG and LIFETEST procedure of SAS 6.12. Based on reproductive performance, 18%PMN was selected as the threshold and cows with >18%PMN were classified as subclinical endometritis. To evaluate the treatment efficacy only cows with >18%PMN were included in the analysis.

Amongst cows from farm 1, the relative risk (RR) of pregnancy for CEP treated cows was 1.96 compared to CON cows (p=0.052). The RR of pregnancy between CLO and CON (p=0.57) and, CLO and CEP (p=0.24) were not different. Median days open (MDO) for CEP, CLO and CON cows were 141, 192 and 219, respectively. MDO for CEP treated cows was significantly different than CON cows (p=0.046). The RR of first service pregnancy between CLO and CEP was different (p=0.05). The RR of first service pregnancy between CEP and CON (p=0.32), and CLO and CON (p=0.29) were not different. The median days to first service for CEP, CLO and CON were 92, 81 and 89, respectively (p=0.14). Amongst cows from farm 2, no significant differences were found in the RR of pregnancy and first service pregnancy between treatment groups (p>0.1). The MDO for CEP, CLO and CON were 100, 106 and 128, respectively (p>0.1). The median days to first service for CEP, CLO and CON were 91, 88 and 90, respectively (p>0.1). Results indicate that farm effect plays a major role in the decision regarding treatment. Farm management and genetics for disease resistance may contribute to variations in treatment effect.

Keywords: uterine disease, subclinical endometritis, cytology, pregnancy risk.

