

Left Displaced Abomasum: To Toggle or not to Toggle, that is the Question!

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Introduction

An observational study was conducted from October 1998 to April 2000 on 215 cows diagnosed with left displaced abomasums (LDA) to evaluate risk factors associated with success of the toggle pin fixation procedure (n=108) and the omentopexy (n=107).

Materials and Methods

Cases were obtained from the dairy farm service of the Université de Montréal in Saint-Hyacinthe, Québec, Canada. For each LDA case, a questionnaire was completed before proceeding with one of the fixation techniques chosen by the clinician. The cow's medical history, clinical examination and evaluation of the elected procedure were recorded. Follow-up evaluations were done between Days 4-7 (phone), Days 10-14 (veterinarian's visit) and 30-35 (phone). Follow-ups consisted essentially of evaluating the cow's return to normal feed intake and normal milk production, according to the producer's opinion. Culling decisions were also recorded at follow-ups. All questionnaires were entered and analysed in Epi-Info (version 6.0). Two-tailed Fisher exact test chi-squares were used to evaluate factors associated with the success of the procedures. A significance level of $p < 0.1$ was used.

The toggle pin fixation method (TPF) was performed by five clinicians, and no standardized approach was used. The omentopexy method (OPX) was mostly used by one clinician using a standardized surgical procedure. The two groups were similar according to age (2.6 lactations), number of days in milk (12 days) and body condition score (BCS) (3.2). At time of diagnosis, the TPF group had a higher prevalence of clinical signs compared to OPX. For the TPF group, 85% of the cows were mostly off-feed compared to 63% for the OPX group. 50% Of the TPF cows, were ketotic compared to 33% of

the OPX. Cows from the TPF group appeared to be twice as likely to be culled by 30-35 days (24/108) than OPX cows (11/107).

Results and Discussion

Risk factors associated with the success of the TPF group were: 1) number of trocar perforations before entering into the abomasum (6% (5/77), 14% (3/22) and 50% (3/3) of cows had a culling decision taken by Days 4-7 respectively when 2, 3 and 4 perforations were done, $p=0.02$) and, 2) duration of the condition before the LDA diagnosis (7% (4/56) and 24% (6/25) of the cows had a culling decision taken on them by days 4-7 if it took less than 4 days to find the problem vs between 4 and 14 days; $p=0.08$). There was no effect of the height of the "ping" and the use of antibiotics for this group.

The only risk factor associated with the success of the omentopexy was the recurrence of a LDA. In fact, when it was a LDA relapse, the cows were more likely to be culled by days 30-35 (50%) compared to the first occurrence of LDA (6%; $p=0.003$). There was no effect of the height of the "ping", duration of condition, presence of concurrent diseases or use of supportive therapy on the success of the omentopexy.

Conclusion

This observational study pointed out some risk factors associated with the success of each procedure, but the authors could not compare the two fixation techniques in their prognosis outcomes since there was susceptibility bias (ie. cows with good genetics would be more likely to have had a surgical fixation in order to keep them longer in the herd). A randomized clinical trial would be necessary to evaluate which fixation procedure can improve dairy cows' survival after LDA.