
vetmeduni vienna

# Proceedings

## European College of Animal Reproduction
## First Symposium 4 - 6 July 2019
## Vienna, Austria

vienna
www.ecarcollege.org
2019

***Poster No. 27***

## Relationship between passive immune transfer and a simplified score system for diagnosis of respiratory diseases in dairy calves

*Maria Jaureguiberry[1,2], Ramiro Rearte[1,2], Mauricio Giuliodori[1], Vanina Madoz[1,2], Fiorela Alvarado Pinedo[1], Rodolfo Luzbel de la Sota[1,2]*

*[1]Facultad de Ciencias Veterinarias, Universidad Nacional de La Plata, [2]CONICET, Argentina*

The objectives of the present study were to determine the effect of passive immune transfer on growth, morbidity and mortality, and to evaluate a simplified score system for diagnosis of respiratory disease in dairy calves housed in groups. After calving, all calves (n= 275) ingested 4 L of stored colostrum which was assessed by refractometry (Brix scale). The cut point used as indicative of good quality colostrum was ≥ 22%. A blood sample was taken from the jugular vein of Holstein dairy calves at 1-7 days of ages to determine serum total protein concentration by refractometry. The cut point used as indicative of failure of passive transfer (FPT) was < 5.2 g/dL. Subsequently, all calves were evaluated once a week for 8 weeks using heart-girth measuring tape and two clinical scores. The first clinical score (CS1) included the following signs and assigned them a value (0 to 3): nasal discharge, ocular discharge, coughing, ear position and fever (Calf Health Scoring Chart, University of Wisconsin). Calves were considered positive when the total score was ≥ 5. The second clinical score (CS2, simplified score) did not include fever and calves were considered positive when the score was ≥ 4. Data about deaths were recorded during the visits. Statistical analyses were performed by logistic regression and by Kappa's coefficient analysis. The prevalence of FPT was 21.22 % (59/278). During summer, the FPT was higher than during the rest of the seasons (P= 0.02). Colostrum quality had an important effect on FPT. Calves that ingested 4 L of bad colostrum quality had 3.67 times greater odds of having FPT than calves that ingested 4 L of good colostrum quality (P= 0.002). The average of weight gain at 8 weeks of ages was 73.09 Kg and 69.01 Kg for calves with a successful passive transfer of immunity and with FPT, respectively (P<0.001). Thus, calves that had FPT weighted 4.20 Kg less at weaning compared to their mates. On the other hand, calves with FPT had 2.5 (P= 0.09) times greater odds of having respiratory disease using CS1 and 3.6 (P= 0.03) using CS2 but had no effect on the incidence of diarrhea (P= 0.43). Calves that had FPT had 2.74 times greater odds of death that their mates (P= 0.10). Finally, the two scores had good agreement (Kappa`s coefficient of 0.73). In conclusion, a successful passive transfer of immunity improves the development of the calves, has a protective effect against respiratory disease and decreases the odds of death. The simplified CS2 is a useful method that could be use in calves housed in groups because does not include the measuring of rectal temperature.