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OMPHALITIS RISK FACTOR EVALUATION IN CHAROLAIS BREED

#ABSEBF00086

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Abstract : Umbilical infection is the third most common neonatal affection, with important economic consequences in suckler herds. We developed a longitudinal study to assess the animal and environmental risk factors for umbilical infections in Charolais breed. We followed 133 calves, from birth to one month old, in 5 charolais farms in France during winters 2016 and 2017. Farmers completed a questionnaire on the practices and conditions of calving for each calf. They measured the length and the width of the umbilical cord, and recorded the calf weight at birth. A serum total protein assay was performed during the first week of life to assess the transfer of passive immunity. Omphalitis presence was evaluated by the same observer for all the calves. Omphalitis had a prevalence of 18% in these farms. Male calves are 2.9 times more at risk to develop omphalitis than females. Occurrence of omphalitis is 3.7 times greater for calves with a width cord greater than 2,2 cm. There is no demonstrated effect of birth weight, calving rank, nor colostrum feeding or calving assistance on omphalitis occurrence. A non-specific calving area was shown as involving 5 times more omphalitis than calving in a reserved area. This study confirmed the importance of omphalitis in charolais breed, and that male calves are more exposed to this affection. It also displayed factors involved in development of omphalitis may change depending of the breed and possibly the zootechnical management of calving. In Charolais farms, hygienic conditions around calving constituted a tool of choice to prevent omphalitis.

Introduction : Umbilical infection is the third most common neonatal affection. We developed a longitudinal study to assess the animal and environmental risk factors for umbilical infections in Charolais bred with important financial consequences.

Materials and methods: Longitudinal study of 133 calves was done in 5 farms in Franc, winters 2016 and 2017. Farmers completed a questionnaire on practices and calving conditions, for each calf. They measured the length and the width of the umbilical cord and recorded the calf weight, immediately after birth. A serum total protein assay was performed the first week of life to assess the transfer of passive immunity. Omphalitis was evaluated by the same observer for all calves, from birth to one month old. All data were analyzed with a Fischer's exact test.

Results

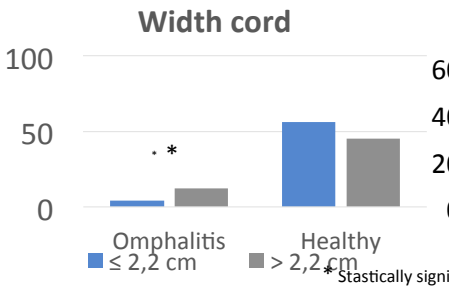
Omphalitis had 18% general prevalence among charolais' calves, higher than the prevalence in Holstein and Monbeliard's breeds, confirming the breed effect on omphalitis risk. Male calves are 2.9 times more at risk to develop one than females. Occurrence of omphalitis is 3.7 times greater for calves at width cord greater than 2.2 cm.

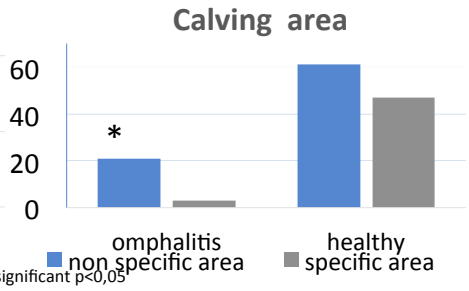
A tendency exists for heaviest calves to present omphalitis, even if there was no significant difference between both 2016 and 2017 omphalitis occurrences, 2017 displaying lighter calves at birth.

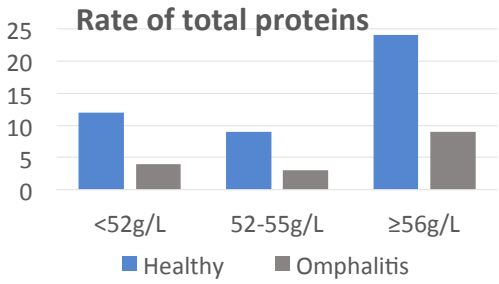
A non-specific calving area supposed 5 more omphalitis risk than calving in a reserved area.

Distribution of omphalitis occurrence is similar in all classes of passive immunity transfer.

We cannot analyse calving assistance or dystocia and calve resting after birth in our study, because of the diversity of the calving situations.







Conclusion : This study confirmed the importance of omphalitis in charolais breed. Calving management, with a reserved area, is important to prevent infections. It is essential to pay attention to males and calves with a large umbilical cord at birth, to detect and treat them earlier and prevent serious consequences. Studying the calving conditions, especially the recovery time after birth, remains to do.

All the results of this study are part of the veterinarian thesis of Cecile BRICOUT , available at VetAgro Sup, campus vétérinaire de Lyon