

Associations between udder cleft dermatitis and bovine mastitis

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Introduction

Udder cleft dermatitis (UCD) is skin lesions located at the anterior junction between the udder and the abdominal wall, and/or between the front quarters of the udder. In a recent Swedish study, the prevalence of UCD among 1084 cows from 30 dairy herds in a region of Sweden was 18% [1]. The herd prevalence varied between 0% and 39%, with an average of 16%. A possible association between UCD and udder health has been discussed, but very few studies have been published. Therefore, the aim was to study if UCD is associated with bovine mastitis in Swedish dairy herds.

Material and methods

Thirty dairy herds from the county of Östergötland with free stall housing and milking parlor were visited at one milking occasion per herd when every third cow was investigated for UCD. Herd and cow data was collected for risk factor analyses. Udder health parameters investigated at herd level were the mean geometric somatic cell count (SCC) and the incidence of veterinary-treated clinical mastitis (VTCM) during 6 months before the herd visit. Parameters tested at cow level were the cow SCC at the test milking ± 15 days from the herd visit and registration of VTCM ± 30 days from the herd visit. Associations between UCD and udder health parameters were evaluated using univariable and multivariable regression analyses.

Results

At herd level, significant risk factors in the multivariable analysis were a high proportion of Swedish Red cows (compared to Swedish Holstein cows) and a high production level. In the univariable analyses herds with SCC $< 200\,000$ cells/ml had a higher prevalence of UCD than herds with higher SCC, but the prevalence of UCD did not differ between herds with VTCM prevalence $< 1\%$ or $\geq 1\%$. At cow level, the same effects of breed and production level was found in the multivariable analysis. Moreover, older cows were more prone to have UCD than younger cows, and cows with VTCM had a higher prevalence of UCD than cows without VTCM. A significant association between UCD and cow SCC was not found.

Conclusions

Cows with UCD had 3.7 times higher risk for VTCM ± 30 days from the UCD diagnosis compared to cows without UCD. Whether UCD is a risk factor for VTCM or vice versa is not clear, but the first option is most likely. It is possible that UCD might be a reservoir for udder pathogens. An association between UCD and SCC was, however, not found. The primary cause of UCD is still unclear, and more research is needed to identify the best ways to prevent the development of the disease.

References

[1]. M Bengtsson: Prevalence and risk factors for udder cleft dermatitis in Swedish dairy cattle [in Swedish]. Swedish University of Agricultural Sciences, Uppsala, Master thesis 2013, <http://stud.epsilon.slu.se/5303/>