**Titre d’article :** Profiling inflammatory biomarkers in cervico-vaginal mucus (CVM) postpartum: Potential early indicators of bovine clinical endometritis?

**Résumé :**

Endometritis significantly impacts fertility and milk yield, thus reducing profitability of the dairy production. In cows that develop endometritis, normal postpartum endometrial inflammation is dysregulated. Here, we propose that endometrial inflammation is reflected in cervico-vaginal mucus (CVM) which could therefore be used as a prognostic tool. CVM was collected from 20 dairy cows (10 with clinical endometritis and 10 healthy) 7 and 21 days postpartum (DPP). Polymorphonuclear (PMN), mononuclear leukocyte and epithelial cells were counted, total protein levels were estimated and levels of IL-1β, IL-6, IL-8, serum amyloid A (SAA), haptoglobin (Hp) and C5b were analyzed by ELISA in CVM. PMN were consistently high in CVM from 7 to 21 DPP, but were higher in CVM from cows with clinical endometritis 21 DPP compared with healthy cows. In contrast, there were more epithelial cells in healthy cows 21 DPP than in clinical endometritis animals. Total protein levels decreased significantly in CVM from healthy cows between days 7 and 21 postpartum. All inflammatory biomarkers except C5b, remained high in cows with clinical endometritis from 7 to 21 DPP, indicating sustained and chronic endometrial inflammation. IL1, IL-6, IL-8 and Hp levels were higher in CVM from cows with clinical endometritis compared to healthy cows 21 DPP. Interestingly IL-1β levels were raised in CVM from clinical endometritis but not in healthy cows 7 DPP suggesting that early measurement of IL-1β levels might provide a useful predictive marker of clinical endometritis. In contrast, SAA and C5b levels were increased in healthy cows 21 DPP, compared to cows with clinical endometritis suggesting that these acute phase proteins might have an anti-inflammatory role. Our results show that CVM is convenient for profiling disease-associated changes in key inflammatory molecules postpartum and reaffirms that sustained inflammation is a key feature of clinical endometritis in the dairy cow.