USE OF HYSTEROSCOPY AS A TOOL IN RESEARCH ON BOVINE METRIS AND ENDOMETRITIS

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Diagnosis of metritis and endometritis is commonly based on indirect examinations of the uterus, e.g. rectal temperature, and vaginal discharge. Direct information can be obtained by bacteriological swabs or endometrial cytology. The objective of two studies was to test the use of hysteroscopy as a tool in research on acute metritis, clinical (CE) and subclinical (SE) endometritis in dairy cows.

In a first study, hysteroscopy was performed 3-12 DIM in 48 dairy cows with a flexible endoscope. Although the uterine cavity was filled with fluids, parts of the endometrium and caruncles could be evaluated. Most frequently (>80%) the endometrium was reddish, with pus-like fluids (>50%). In a few cows, necrotic caruncles were visible. For research, it may be of interest to take visually guided samples from different regions or alterations. For teaching, videos from normal and abnormal uterine cavities may be used to show changes during the postpartum period.

In a second study, hysteroscopy was tested on 30 cows 20-35 DIM, as a tool to evaluate the diagnosis of CE and SE, performed by vaginoscopy and endometrial cytology, respectively. Hysteroscopy was performed with a rigid endoscope. In cows with CE, pus was visible by hysteroscopy in 50%. In vaginoscopic negative cows, no pus was found by hysteroscopy. Red spots in the endometrium were hysteroscopically observed in 33 and 6% of cows positive and negative to CE by vaginoscopy, respectively. Further research is required to evaluate the significance of these hysteroscopic findings. Our data provide evidence that hysteroscopy may be used to determine the accuracy of vaginoscopy. Because of the limited number of cows in this pilot study, results should be interpreted with care. In 20 CE negative cows, cytological samples were taken with a small brush through the working channel of the endoscope. Proportion of neutrophils >5% defined SE. Prevalence of SE was 40%. Abnormalities of the endometrium, i.e. reddish spots or scars were found neither in cows with SE nor in cows without SE. Thus, for the diagnosis of SE, the use of hysteroscopy seems to be limited. Hysteroscopy may be of interest to evaluate samples obtained from specific regions of the endometrium, e.g. caruncular areas.

In conclusion, hysteroscopy in postpartum cows can be used as a tool in bovine reproductive research with the objective to improve our understanding of uterine disorders. Technical improvements could facilitate hysteroscopic examinations.