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Histopathological survey of cervicovaginal samples of Holstein dairy cows with or without reproductive tract disorders

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P72

Introduction: The increase of reproductive performance such as: first service/conception, conception rate, improvement of days open and calving interval in dairy cattle herds depend on several factors. Several complexes relationship among the effective factors influencing on the fertility are related to the health status of reproductive system organs of dairy cattle.

The objective of this study was: to evaluate the cervicovaginal histopathological changes in Holstein dairy cows with or without clinical signs of reproduction system abnormalities.

Material and methods: In total, 144 lactating Holstein cows with (No. 103) or without (N. 41) recorded postpartum clinical symptoms of reproduction diseases were examined in treatment and control groups, respectively. The cervical and vaginal specimens of 99 and 103 cows in treatment group were obtained, respectively. The cervical and vaginal samples of 38 and 41 cows in control group were prepared, respectively. Biopsies of the internal wall of cervix and vagina were obtained using a sterile alligator-jawed (rounded) biopsy forceps. Cows were inseminated artificially (No.83; 58%) for three times after the calving or had not been recorded any estrus signs since three months after their last calving (No.61; 42%). They were at various

stages of the estrus cycle. The samples were placed in 10% formalin. After the related processing

of the samples, they were evaluated for microscopic histopathological changes.

Results: The results showed that 74 out of 99 (78%) dairy cows had no cervical pathological lesions. There was no vaginal pathological lesion for 97 (94%) cows. However, it was showed that 4 (11%) and 5 (12%) cows in control group had cervical and vaginal histopathological lesions, respectively. Chronic cervicitis (No. 8; 8%) and mild chronic vaginitis (No. 3; 3%) was the most common lesion in treatment group, respectively. However, 2 (5%) cows had chronic follicular cervicitis and 2 (5%) cows showed acute cervicitis in control group. In control group, 36 (88%) cows had no vaginal histopathological changes. Acute vaginitis was indicated in 5 (12%) cows of control group.

Discussion: It was shown that most of the cows with recorded postpartum genital system diseases had no histopathological lesions. The most cervicovaginal lesion was chronic in the cows. However, the healthy cows might have acute cervicovaginal lesions.