Evaluation of the cytology and histology of uterus and cervix as predictors of estrous stages in cows

Boutelis Safia[1]., Laanani Ismahane [1]., Yahia Mouloud.[1]
1 : Laboratoire de Biotechnologie des Molécules Bioactives et de Physiopathologie Cellulaire, Département des sciences de la nature et de la vie, Faculté des Sciences, Université El Hadj Lakhdar, Batna.
biochimie85@gmail.com

Abstract

The objective of this study was to describe the cytological and histological changes in the reproductive tract of cows during different stages of the reproductive cycle.
Twelve reproductive tracts of slaughtered cows were collected from a commercial slaughterhouse in the region of Batna. The reproductive phase of each tract was estimated by
ovarian performance. Cytobrush samples from the uterus and cervix were prepared. The smears were stained with Giemsa and examined for differential cellular counts. Furthermore, biopsy samples fixed in 10% buffered formaldehyde, embedded in paraffin, sectioned and stained with hematoxylin and eosin.
The results showed no significant difference ($P \geq 0.05$) for cellular densities between cervical and uterine smears in different phases of estrus cycle (follicular and luteal phases). However, there were significant differences in the percentage of neutrophil cells of uterine and cervical smears in tracts with a corpus luteum (CL) or without a CL. In spite of, the following histological changes were observed during the estrous cycle in cows. Histological examination was a useful diagnostic method that provided rich detail on endometrial inflammation, and allowed evaluation of different components of the tissue such as the epithelium, lamina propria, endometrial glands, and blood vessels. Therefore, in cows cervical smears may be used for evaluation of uterine condition.

Key words: cows, cytology, histology, reproductive tracts, estrous.