

Genital Ways Changes During Sexual Cycle

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The exact determination of sexual cycle stages has constituted a major concern for specialists, the success of reproduction depending on it by establishing the optimal moment for insemination as well as in order to achieve some biotechnical action such as heat synchronization and embryos transfer. The present study goal is represented by the establishment of some assembly microscopically traits belonging to the female genital system during the different stages of the estrus.

Keywords: Genital ways changes, Sexual cycle

Kızgınlık Döngüsü Boyunca Genital Yollardaki Değişiklikler

Kızgınlık döngüsü safhalarının tam olarak belirlenmesi ilgili uzmanlar için belli ilgi alanı olup kızgınlık senkronizasyonu ve embriyo transferi gibi çeşitli biyoteknolojik işlemlerde başarıya ulaşmak için olduğu kadar başarının üreme sürecinde tohumlamanın uygun anını belirleme konusunda da önemlidir.

Bu çalışma dişi genital sisteminin kızgınlığın çeşitli safhalarındaki genital istemde bazı mikroskopik özelliklerin belirlenmesi amaçlanmıştır.

Anahtar kelimeler: kızgınlık döngüsü,

Introduction

The genital way change during sexual cycles is important as an indicator of exact determination of sexual cycle stages.

In order to achieve best fertility results by establishing the optimal moment for insemination, the exact determination of sexual

cycle has constituted a major concern for specialists. Cyclic changes at the oviduct, uterus, and vagina level could allow the description of each sexual cycle. Microstructural level changes of whole genital system could also be indicator of cyclic stages.

Material and Method

The research has been carried out on twelve cows. Organ samples (oviduct , uterus , vagina) were taken from each of cows and fixed in substance of formalin 10% and Boin fixing solution included in paraffin and sectioned at 4-6µ.. The following coloring technique was used: hamatoxiline, hyzone – methylene blue by silver impregnation Gomori. The preparations were analyzed under a BX 40 Olympus microscope with an automatic photograph taking system.

Results and Discussion

At the oviduct level ther was no spectacular cyclic changes. The prismatic epithelium, pseudo stratified in certain places maintains its general characteristics during the whole estrus cycle. However, during the estrus stage the foamy aspect of cytoplasm is emphasized. This one growing in quantity at the cells apical pole.

Within the chorium, in the same stage, one intensifies the hyperemia especially in the pavilion area ,and among the connective tissues, one meets many one-nucleus cells (Figure1).

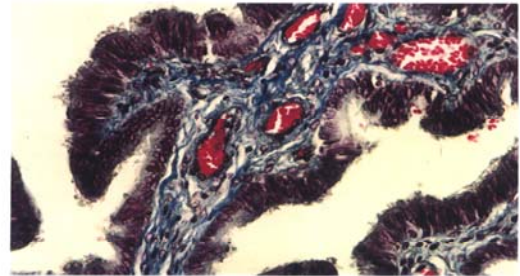


Figure 1. Oviduct the stage of pro estrus–estrus. Epithelial hyperplasia, leucocytes afflux and corium hyperemia (HEA COLOURING, ob.40)

During the estrus stage, the proliferate processes from the uterus level reach the climax (Figure2), the covering epithelium grows in height, and the pluristrata aspect becomes constant .

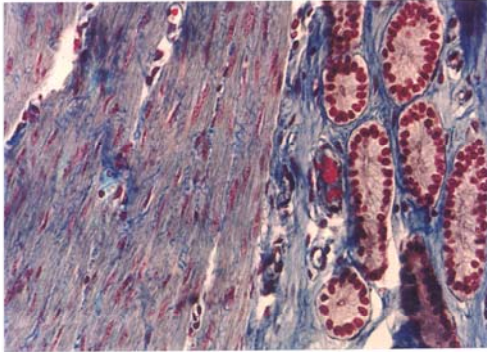


Figure 2 Uterus – the estrus stage (HEA COLOURING ,ob.40)

Within the deep corium, there are many glands and the lumen is reduced .The nucleus of gland cells are basis localized and the abundant cytoplasm presents foamy characteristics (Figure3).

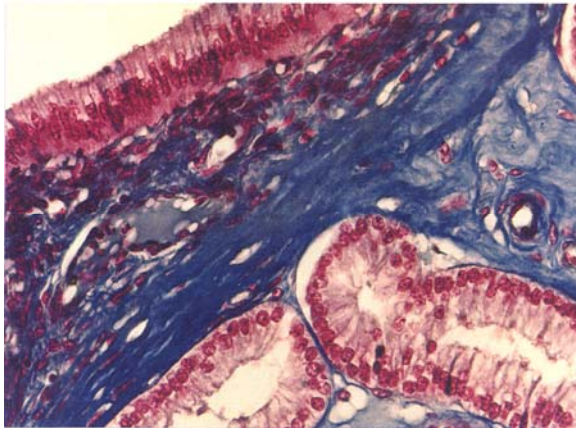


Figure 3.Uterus – early metoestrus (HEA COLOURING, ob.40)

The main element of met estrus stage is gland hyperplasia. The endometrial epithelium grows in height, the cytoplasm is localized under but also above the nucleus having foamy characteristics.

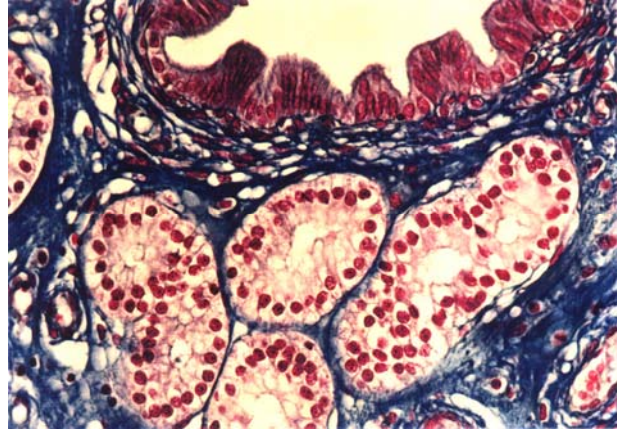


Figure 4. Uterus – late metoestrus (HEA COLOURING, ob.40)

The endometrial doubles its volume as a consequence of glands growing volume. (Figure 3). At the end of met estrus one can signal in some places a reduction of covering epithelium height, the cells having different sizes, which gives it a lacy aspect. The uterine glands are more and more curved than in the previous stages and normally they are obliquely sectioned .these ones are very well developed with big cells and foamy and abundant glands cytoplasm (Figure 4).

On account of the intense proliferation induced by estrogens during the stage of estrus and early estrus ,the vagina epithelium is formed of 16-20 strata of superposed cells and during the die estrus, stage found under the influence of ovarian progestagens, the strata number reduces to 3-4 (Figure 5 and 6).

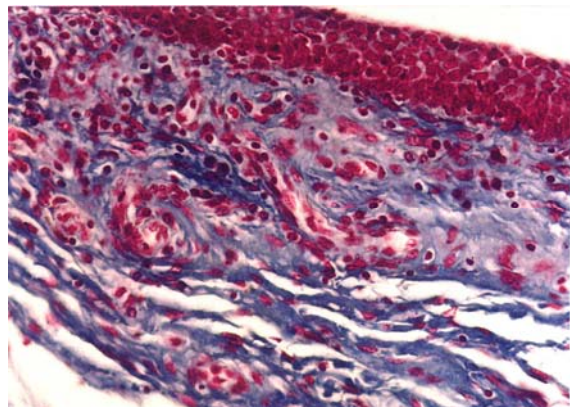


Figure 5.Vagina-prooestrus stage (HEA COLOURING, ob.40)

The epithelial cells morphology changes during the cycle. During the estrus they have pavement aspect, being surprised as high cells, during the dioestrus they are small, flat and dense as in the pro estrus stage they have the morphology of cubical cells.

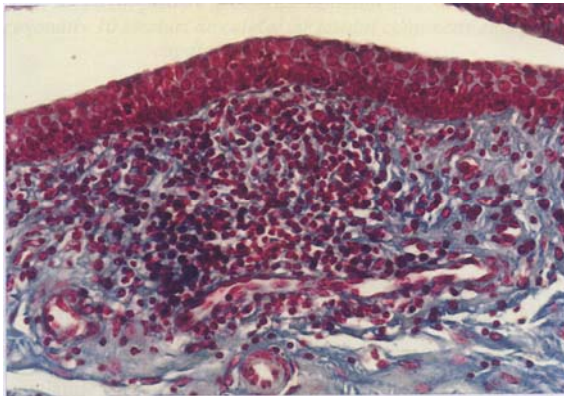


Figure 6. Vagina-dioestrus stage
(HEA COLOURING, ob.40)

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Conclusions

The main aspects emphasize the followings.

- The microstructure of the whole genital system significant changes induced on a hormonal way
- The most representative changes appear at the level of the uterus and vagina, at least at the oviduct level –changes which allow the description of every sexual stage cycle.
- During the estrogenic stage, the proliferate hypertrophy processes and edema appearance as well as at the level of uterine mucosa and at the vagina level.

