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Question1: Discuss the cyclic change of the following

1. Vagina

2. Breast

Answer:

1. Cyclic change of vagina: Vaginal cytology was evaluated weekly over 12 months in 20 adult female *Cynomolgus* monkeys (*Macaca fascicularis*). After sacrifice of the animals the histology of the ovaries, uterus and vagina were studied in different phases of the menstrual cycle. The cytological examination of the vaginal smears showed that the superficial cells increased in number towards the middle of the cycle and the number of intermediate cells declined gradually. Parabasal cells were observed mainly at the beginning of the cycle; they disappeared towards the middle of the menstrual cycle. During the early follicular phase, the cells were moderately separated from each other, and during the second half of the proliferative or follicular phase, the superficial cells appeared clumped together. Leucocytes were usually absent except for at the beginning of the cycle and in the last few days of the late secretory or luteal phase. The maturation index of the vaginal smears can be considered as a tool for distinguishing the different phases of the menstrual cycle. The microscopic examination of the genital organs showed that during the proliferative or follicular phase of the cycle, which corresponds to the development of the ovarian follicles, the uterus showed growth of endometrial glands, stroma and endothelial cell proliferation with capillary sprouts. Shortly after ovulation and parallel to the formation of the corpora lutea, the endometrium enters the secretory or luteal phase, which is characterized by coiling of endometrial glands, glandular secretion and the differentiation of the spiral artery. The most striking changes in the vagina, is the marked basal cell proliferation and thickening of the stratum granulosum during the follicular phase of the menstrual cycle. The histological changes observed in the vagina demonstrated a good correlation with the observation on cytological examination of the smears. The present study demonstrated that the process of angiogenesis in the uterus during the different phases of the menstrual cycle is a multiple phenomenon involving proliferation, maturation and differentiation.

2. Cyclic change of breast:

What cyclical changes happen to the breasts during the menstrual cycle? Each month, women go through changes in the hormones that make up the normal menstrual cycle. The hormone estrogen is produced by the ovaries in the first half of the menstrual cycle. It stimulates the growth of milk ducts in the breasts.

QUESTION 2: EXPLICATE MENSTRUAL CYCLE.

ANSWER: Understanding how menstruation works can help you understand how your own cycle works.

Your menstrual cycle is part of your body's way of preparing for a possible pregnancy each month. Understanding how the process works is important, since you can use this information to help to either get pregnant or avoid getting pregnant, to better manage any menstrual symptoms you are experiencing, and understand when there might be a problem.

Explore Menstrual Cycle Basics:

What is menstruation?

How does the menstrual cycle work?

What is considered 'normal bleeding'?

How can I figure out what is happening in my cycle? When am I ovulating?

What is menstruation?

Menstruation is the technical term for getting your period. About once a month, females who have gone through puberty will experience menstrual bleeding. This happens because the lining of the uterus has prepared itself for a possible pregnancy by becoming thicker and richer in blood vessels. If pregnancy does not occur, this thickened lining is shed, accompanied by bleeding. Bleeding usually lasts for 3-8 days. For most women, menstruation happens in a fairly regular, predictable pattern. The length of time from the first day of one period to the first day of the next period normally ranges from 21-35 days.

How does the menstrual cycle work?

The menstrual cycle is controlled by a complex orchestra of hormones, produced by two structures in the brain, the pituitary gland and the hypothalamus along with the ovaries.