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MATRIC NUMBER: 18/MHS02/071

COLLEGE: MEDINCINE AND HEALTH SCIENCE

DEPARTMENT: NURSING SCIENCE

SUBJECT: PHYSIOLOGY ASSIGNMENT

1. CYCLIC CHANGES IN THE CERVIX AND BREAST

CERVIX

The cervical mucus appears to have an important function in the process of human reproduction. In response to stimulation by estrogen, cervical glands produce increasing amounts of a characteristic mucoid secretion. At the peak of this secretory activity, prior to ovulation, these glands produce copious amounts of a thin, isotonic mucus which is easily penetrated by the sperm. Progesterone, on the other hand, is known to bring about both quantitative and qualitative alteration in the cervical mucus has been shown to become scanty in amount, as well as viscous and cellular. During the pregestational phase also, such properties as spinnbarkeit and crystallization of the cervical mucus, which characterize estrogen stimulation, are markedly reduced or absent and consequently sperm migration is inhibited.

Since endogenous progesterone cause an inhibition of sperm migration through cervical mucus, exogenously administered progestins, as prescribed for oral contraception, might be expected to have similar effect. If the mucus is spread on a slide and left to dry it shows crystal pattern which is maximal about ovulation. At other times of the cycle, in pregnancy or after the menopause, crystallization is reduced or absent. This crystallization has been described as resembling fern or palm leaves. Progesterone exerts an inhibitory effect on the crystals as on the crystals as on the mucus itself.

BREAST

The cyclic change in the breast occur during different times in a woman. They are the cyclic changes that happens to the breast during the menstrual cycle. Each month, women go through changes in the hormones that make up the normal menstrual cycle. The hormones estrogen is produced in the first half of the menstrual cycle. It stimulates the growth of milk ducts in the breasts. The increasing level of estrogen leads to ovulation halfway through the cycle. Next, the hormone progesterone takes over in the second half of the cycle. It stimulates the formation of milk glands. These hormones are believed to be responsible for the cyclic changes that many women feel in their breast just before menstruation. These includes swelling, pain and soreness.

At menopause the breast goes through some cyclic changes too. By the time a woman reaches 40s and 50s, perimenopause is starting or well underway. At this time, the level of estrogen and progesterone begin to change. Estrogen level dramatically decrease. This leads to many of the symptoms commonly linked to menopause. Without estrogen, the breast connective tissue becomes dehydrated and no longer elastic. The breast tissue, which was prepared to make milk, shrinks and loses shape. This leads to the saggy breast associated with women of this age

1. MENSTRUAL CYCLE

The menstrual cycle is the regular natural change that occur in the female reproductive system (specially the uterus and ovaries) that makes pregnancy possible. The menstrual cycle last 28days. They are two stages involve in the menstrual cycle

1. Menstruation: This occurs when the egg is not fertilized this last between 3-7days commonly known as the period because the egg has not been fertilized the uterus lining called the endometrium is not needed and hence it breaks down and is lost through the vaginal canal with some blood
2. Ovulation: This is when the woman is more fertile, after menstruation the lining of the uterus thickens up again in preparation for a fertilize egg and inside the ovary a follicle develop at about 14day of the cycle an egg is released from the follicle of the ovaries. If the egg is fertilized and embed itself in the thick uterus lining, the lining is not shed and menstruation will not occur and the woman becomes pregnant.

The menstrual cycle is controlled by two main hormones

1. Oestrogen: This is produced by the ovaries and cause the uterus lining (endometrium) to thicken again, after menstruation s that is ready to receive the embryo.
2. Progesterone: This is produced by the empty follicle of the ovary. If the egg is fertilizer progesterone level stay high for the first 6month of pregnancy the follicle continues to produce it and the placenta is formed.

Thus, oestrogen builds up the uterus lining and progesterone maintain it during the 2nd half of the menstrual cycle. They are two other hormones also involve in the menstrual cycle;

The follicle stimulating hormones (FSH) and the luteinizing hormone (LH) secreted by the anterior pituitary gland. The FSH caused the egg to mature in the ovary and also stimulate the ovary to release oestrogen, the oestrogen then stop the FSH from being produced so that only one egg matures in the cycle. The LH cause the matured egg to be released from the ovary and stimulate the release of progesterone