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18/ENG02/003

BIOMEDICAL ENGINEERING.

PHS 212.

Cervix:
a.) On day one of the cycle, levels of both estrogen & progesterone are low. Estrogen levels determine cervical fluid production, so the cervix doesn't produce much fluid at the time. Just after the period is over, estrogen is rising but the cervical fluid still wouldn't be noticeable, thereby the cervix is dry. Then leading up to ovulation, estrogen level rises more & the cervix produces sticky, white & creamy fluid. Around ovulation, more cervical fluid is produced, it will be wet, clear and stretchy; and the vaginal discharge is more. As soon as ovulation is over, i.e. luteal phase, the cervical fluid will become more fibrous thereby sticky & dry.

b.) Breasts: The hormone estrogen is produced by the ovaries in the first half of the menstrual cycle; and it stimulates the growth of milk ducts in the breasts. Next, progesterone takes over in the second half, and it stimulates the growth of milk ~~ducts~~^{glands} in the breasts. These hormones are responsible for the cyclic changes in breasts ^{just before menstruation} which include swelling, pain & soreness. During menstruation, many women also have changes in breast texture i.e. lumpy breasts. This is because the glands in the breasts are enlarging due to the increased level of estrogen & progesterone.

1. Menstrual cycle: This refers to the cycles in which a woman's uterus grows & sheds a lining which could support the development of a fertilised egg. It typically occurs in 28 day cycles; ~~the inner lining~~ ^{the inner lining} of the uterus goes through 3 phases during the menstrual cycle; the menstrual phase, the proliferative phase & the secretory phase. The menstrual cycle starts with the ~~menstrual~~ ^{menstrual} period in which the uterus sheds its lining. This bleeding usually continues for 3-5 days & it is the menstrual phase of the cycle. The next phase, the proliferative phase, begins. The uterine lining is regenerated in preparation for receiving a fertilised egg i.e. if fertilisation occurs. If the egg is not fertilised, the cycle continues with the secretory phase. This phase is usually the same length regardless of the total length of the woman's menstrual cycle. Levels of oestrogen, progesterone, luteinising hormone & follicle stimulating hormone all decline. This causes the blood vessels supplying the uterine lining to deprive the lining of the nutrients & oxygen it needs to survive, thereby resulting in menstrual bleeding; and commencement of a new menstrual cycle.