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Question: Discuss lactation and gestation period in a normal female

Gestation Period

The average length of pregnancy(gestation period ) , is calculated as 40 weeks. Pregnancy is counted from the first day of the woman’s last period, not the date of conception which generally occurs two weeks later, followed by five to seven days before it settles in the uterus. Since some women are unsure of the date of their last menstruation a pregnancy is considered full term if birth falls between 37 to 42 weeks of the estimated due date.

A baby that still hasn’t been born by week 42 is said to be overdue while a baby born before week 37 (which is generally the actual length of a pregnancy) is considered premature . In many cases, labour will be induced in the case of an overdue baby. The average length of human gestation is 280 days, or 40 weeks, from the first day of the woman’s last menstrual period. The medical term for the due date is estimated date of confinement :EDC .However, only about four per cent of women actually give birth on their EDC.

Lactation

Lactation can be defined as the secretion and yielding of milk by females after giving birth. The milk is produced by the mammary glands, which are contained within the breasts, unlike most of the other organs the breasts continue to increase in size after childbirth. Even though mammary growth begins during pregnancy under the influence of ovarian and placental hormones, and some milk is formed, copious milk secretion sets in only after delivery. Since lactation ensues after a premature birth, it would appear that milk production is held back during pregnancy. The mechanism by which this inhibitory effect is brought about, , has long been the subject of an argument that revolves around the opposing actions of estrogen , progesterone, and prolactin . During pregnancy the combination of estrogen and progesterone circulating in the blood appears to hold back milk secretion by action of blocking the release of prolactin from the pituitary gland and making the mammary gland cells unresponsive to this pituitary hormones as well.

This inhibition is stopped at the end of pregnancy by the expulsion of the placenta and the loss of its supply of hormones, as well as by the decline in hormone production by the ovaries, while sufficient estrogen remains in circulation to promote the secretion of prolactin by the pituitary gland and so favour lactation. In other for lactation to continue, necessary patterns of hormone secretion must be maintained; disturbances of the equilibrium by the experimental removal of the pituitary gland in animals or by comparable diseased conditions in humans quickly arrest milk production. Several pituitary hormones seem to be involved in the formation of milk, so that it is customary to speak of a lactogenic or (milk-producing) complex of hormones. To an extent , the role of the pituitary hormones adrenocorticotropin, thyrotropin, and growth hormone in supporting lactation in women is inferred from the results of studies done on animals and from clinical observations that are in agreement with the results of animal studies. Adrenal corticoids also appear to play an essential role in maintaining lactation.

The stimulus of nursing or suckling supports continued lactation acts in two ways: it promotes the secretion of prolactin (and possibly other pituitary hormones of value in milk formation), and it triggers the release of yet another hormone from the pituitary gland—oxytocin, which causes the contraction of special muscle cells around the alveoli in the breast and ensures the expulsion of milk. It is in this way that a baby’s sucking at one breast may cause an increase in milk flow from both, this may cause milk to drip from the nipple that isn’t being sucked . About 30 seconds elapse between the beginning of active suckling and the initiation of milk flow.

Milk production is normal after the experimental severing of nerves to the normal mammary glands in animals or in an udder transplanted to the neck of a goat. Milk ejection, or “the draught,” in women is readily conditioned and can be precipitated by the preparations for nursing. If a woman is embarrassed or frightened , milk secretion May be inhibited by interfering with the release of oxytocin. Alcohol may also block milk ejection in women. Beyond its action on the mammary glands, oxytocin affects uterine muscle, so that suckling can cause contractions of the uterus and may sometimes result in cramp. Since oxytocin release occurs during sexual intercourse, milk ejection in lactating women has been observed on such occasions. Disturbance of oxytocin secretion, or of the milk-ejection reflex, stops lactation just as readily as a lack of the hormones necessary for milk production, for the milk in the breast is then not extractable by the infant. Many instances of nursing failure are due to a lack of milk ejection in stressful circumstances. Luckily oxytocin treatment coupled with confidence and reassurance curbs these difficulties.