Reproduction

Pituitary gonadotrophic hormones

The anterior pituitary gland produce two gonadotrophic hormones which control the activity of ovaries in the female and the testes in male.

These hormones are the follicular stimulating hormone (FSH) and the luteinizing hormone (LH) in addition there is a third gonadotrophic hormone associated with pregnancy and lactation (normally it is inhibited in absence of pregnancy).

The release of these two hormone from the anterior pituitary gland is under the control of hypothalamus which release LH – RH (luteinizing hormone releasing hormone via the hypothalamo – hypophyseal portal system)

The release of anterior pituitary gonadotrophic hormone is inhibited by feedback from the hormones released by ovaries and testes.

Ovarian hormones:

The ovaries also regarded as endocrine gland which produce two hormones:

1- Oestrogen.

2- Progestrone.

The female sex hormone ostrogen appears in the circulation at puberty it's presence lead to the development of secondary sexual characteristics which is the development of the breast and the female distribution of fat and body hair. Each month from the menarche to the menopause one or other of the ovaries produces an ovum, which is

discharge at ovulation in to the abdominal cavity. It enters the open end of the uterine tube (fallopian tube) of the same or the other side and is carried along this tube to the cavity of the uterus.

If the ovum is not fertilized by a male sperm it only remains in the uterine cavity for 14 days. The endometrium then breaks down and is shed together with the ovum and certain amount of blood about 50ml over the course of 3 – 5 days as the menstrual flow. The first day of menstruation is taken as the first day of menstrual cycle. Menstruation lasts until day 5, ovulation occurs on approximately day 14 and the next menstrual cycle starts after 28 day.

Cycle vary in duration, they may be as short 23 days or long as 35 days. They may be irregular but what ever the length of cycle there is constant interval of 14 days between ovulation &next menstruation.

Menstrual cycle controlled by ant. Pit. Gland .

FSH stimulate maturation of one ovum in an ovarian follicle each month.shortly before ovulation LH appear in the circulation,the combined action of FSH&LH bring about ovulation on day 14.

The cavity left in the ovary by discharged ovum becomes filled with blood &is converted to corpus luteum which will produce progesterone. Therefore progesterone is only present in circulation in the second half of menstrual cycle.

If the ovum is not fertilized, the corpus luteum started to degenerated about day 26 and progestrone disappears from the circulation, it is the disapearance of progesterone at the end of the cycle that causes the endometerium to break down giving rise to the next

menstrual flow. Ovulation and formation of corpus luteum is under the control of LH from anterior pituitary gland.

The sequential release of FSH and LH may be explained as follows. As the ovarian follicle develops it produces an increasing amount of esterogen which reaches a peak shortly before ovulation, this tend to inhibit the release of FSH and stimulate the release of LH.

If the ovum is fertilized then the corpus luteum persists and it became a corpus luteum of pregnancy. As a result there is no fall in progesterone level and hence no menstrual flow after a day 28.

Menstrual periods don’t start again until after baby has been born.

The progesterone from the corpus luteum of pregnancy (and later in the pregnancy from the placenta) inhibits the cyclical release of gonadotrophic hormones by the anterior pituitary and ovulation ceases.

oestrogen