CHAPTER 10 REACHING THE AGE OF ADOLESCENCE

CLASS VIII HAND OUT MODULE 3

HORMONES

* The changes which occur at adolescence are controlled

by hormones .

* Hormones are chemical substances. These are secretions

from endocrine glands, or endocrine system.

* The male hormone or testosterone begin to released by

the testes at the onset of puberty.

* Once puberty is reached in girls, ovaries begin to produce

the female hormone or estrogen which makes the breasts

develop.

* Milk secreting glands or mammary glands develop inside

the breasts.

* The production of these hormones is under the control

of another hormone secreted from an endocrine gland

called pituitary gland

ROLE OF HORMONES IN INITIATING REPRODUCTIVE FUNCTION

* Endocrine glands release hormones into the bloodstream

to reach a particular body part called target site.

* The target site responds to the hormone.
* There are many endocrine glands or ductless glands in the

the body.

* The testes and ovaries secrete sex hormones.

Fig : The onset of puberty is controlled by hormones.

REPRODUCTIVE PHASE OF LIFE IN HUMANS

* Adolescents become capable of reproduction when their

testes and ovaries begin to produce gametes.

* The capacity for maturation and production of gametes

lasts for a much longer time in males than in females.

* In females , the reproductive phase of life begins at puberty (10 to 12 years of age) and generally lasts till the age of approximately 45 to 50 years .
* The ova begin to mature with the onset of puberty.
* One ovum matures and is released by one of the ovaries once in about 28 to 30 days.
* During this period the wall of the uterus becomes thick so as to receive the egg, in case it is fertilised and begin to develop.
* This results in pregnancy.
* If fertilisation does not occur ,the released egg ,and the thickened lining of the uterus along with its blood vessels are shed off.
* This causes bleeding in women which is called menstruation.
* Menstruation occurs once in about 28 to 30 days .
* The first menstrual flow begins at puberty and is termed menarche.
* At 45 to 50 years of age , the menstrual cycle stops.
* Stoppage of menstruation is termed menopause.
* Menstrual cycle is controlled by hormo



Fig Sex determination in humans.

BOY OR GIRL ?

* Inside the fertilised egg or zygote is the instruction for determining the sex of the baby.
* This instruction is present in thread – like structures ,called chromosomes in fertilised egg.
* All human beings have 23 pairs of chromosomes in the nuclei of their cells.
* Two chromosomes , out of these are the sex chromosomes ,named X an Y .
* A female has two X chromosomes, while a male has one X and one Y chromosome.
* The gametes (egg and sperm) have one set of chromosomes.
* The unfertilised egg always has one X chromosome. But sperms are of two kinds. One kind has an X chromosome, and the other kind has a Y chromosome.
* When a sperm containing X chromosome fertilises the egg, the zygote would have two X chromosomes and develop into a female child.
* If the sperm contributes a Y chromosome to the egg (ovum) at fertilisation, the zygote would develop into a male child.

PREPARED BY A K MISHRA

TGT/SS, AECS-3, MUMBAI