

Vidya Bhawan Balika Vidyapeeth Lakhisarai

Arun Kumar Gupta

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Subject Biology

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Human Reproduction

Pregnancy and embryonic development

The finger-like projections on trophoblaste after implantation called is called **chronic villi** that along with uterine wall forms functional unit between developing embryo and maternal body called **placenta**. Placenta is attached with fetus with an umbilical cord that transport food and oxygen to embryo.

- Hormones **hCG (human chorionic gonadotropin)**, **hPL (human placental lactogen)** and **relaxin** are produced in woman only during pregnancy by placenta.
- After implantation, the inner cell mass (embryo) differentiates into an outer layer called **ectoderm** and an inner layer called **endoderm**. A **mesoderm** soon appears between the ectoderm and the endoderm. These three layers give rise to all tissues (organs) in adults. It is important to note that the inner cell mass contains certain cells called stem cells which have the potency to give rise to all the tissues and organs
- In human, after one month of pregnancy the embryo's heart is formed. By the end of 2nd month limbs and digits are formed. By the end of 12 months, major organs and external genital organs are well developed. The first movement of foetus is observed in 5 months. By the end of 24 weeks body is covered with fine hair, eye lids and eyeless are formed. At the end of 9 months fetus is fully developed.

PARTURITION AND LACTATION

Parturition-the process of delivery of fully developed foetus is called parturition.

- Signals for parturition originate from the fully developed fetus and placenta inducing mild uterine contractions called **Foetal ejection reflex**
- It triggers the release of oxytocin from maternal pituitary

The mammary glands of female, start producing milk, to the end of pregnancy by the process of **lactation**. The milk produced during the initial few days of lactation is called **colostrum**, which contain several antibodies.