Fertilisation, Implantation and Development

Fertilisation usually occurs in the \_\_\_\_\_\_\_\_\_\_\_\_ . The Fertilised ovum, called a \_\_\_\_\_\_\_ , begins to divide into two cells, then four cells in a process called \_\_\_\_\_\_\_ until a solid mass of cells is formed. This solid mass is called a \_\_\_\_\_\_\_ and it continues to divide forming a fluid-filled ball of cells called a \_\_\_\_\_\_\_\_\_\_\_\_, which embeds into the wall of the \_\_\_\_\_\_. The outer layer of this ball of cells forms an embryonic membrane called the \_\_\_\_\_\_\_\_.

The embryo develops from a cluster of cells s called the \_\_\_\_\_\_ cell mass and this soon differentiates into \_\_\_\_\_ layers. The uppermost layer of cells is called the \_\_\_\_\_\_\_\_\_\_\_\_\_ and gives rise to the epidermis of the skin and the \_\_\_\_\_\_\_\_\_ system. The layer of cells in the middle is called the \_\_\_\_\_\_\_\_\_\_\_\_ and gives rise to muscle and connective tissues such as \_\_\_\_\_\_\_\_\_ and cartilage. The third layer of cells is called the \_\_\_\_\_\_\_\_\_\_\_\_\_ and this gives rise to many parts of the respiratory and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ systems. An embryo becomes a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ after 8 weeks of uterine life

Embryonic membranes

The amnion is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ membrane that surrounds the baby. It secretes \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ which acts as a \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ and maintains a constant \_\_\_\_\_\_\_\_\_\_\_\_\_. The chorion surrounds everything and forms the foetal side of the \_\_\_\_\_\_\_\_\_\_\_\_. It secretes the hormone \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ which can be used as a test for \_\_\_\_\_\_\_\_\_\_\_\_\_.

Finger like projections, called \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ develop from the chorion to form a network of foetal and maternal capillaries. This area is called the \_\_\_\_\_\_\_\_\_\_\_\_ and is connected to the baby by the \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_. This structure contains \_\_\_\_ arteries (which take blood to the \_\_\_\_\_\_\_\_\_\_\_) and \_\_\_\_\_\_\_\_\_ vein that carries blood to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_. Via these structures the baby receives \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_ and removes wastes such as \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_.

Milestones in Development

1. \_\_\_\_\_\_\_\_\_\_\_\_ takes place

36 hrs 2 cell stage

3 days \_\_\_\_\_\_\_\_\_\_\_\_ (solid ball of cells)

4 days \_\_\_\_\_\_\_\_\_\_\_\_ (hollow ball of cells)

5-9 days \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of embryo

2 weeks two layered embryo

3 weeks three layered embryo

4-5 weeks one chambered \_\_\_\_\_\_\_\_\_\_\_ begins to beat

5-6 weeks heart is now \_\_\_\_\_\_\_ four chambered, liver manufactures \_\_\_\_\_\_\_\_\_ blood cells

8 weeks embryo becomes a \_\_\_\_\_\_\_\_\_\_\_

9-12 weeks nails appear, blood is made in the \_\_\_\_\_\_\_ marrow

4 months rapid growth

5-9 months refinement of all body systems.

Signs and Symptoms of Pregnancy

Missing a \_\_\_\_\_\_\_\_\_\_ is the first sign of pregnancy. Later signs may include tenderness of the \_\_\_\_\_\_\_\_\_\_\_\_, nausea (called \_\_\_\_\_\_\_\_\_\_\_ sickness) and more frequent \_\_\_\_\_\_\_\_\_\_\_\_\_\_. Later on in pregnancy, as the foetus increases in size, the mother’s breasts are prepared for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and she gains weight.

Maintaining Pregnancy

There are several hormones that maintain a pregnancy: the chorion releases the hormone \_\_\_\_\_\_\_\_\_\_\_\_ which prevents the corpus \_\_\_\_\_\_\_\_\_\_\_ from degenerating. Therefore, \_\_\_\_\_\_\_\_\_\_\_\_\_ which maintains the endometrium is continued to be secreted. Extra progesterone is secreted by the \_\_\_\_\_\_\_\_\_\_\_\_ when it is established. When birth is imminent, the pituitary gland releases \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to initiate labour.

The time from when an embryo develops to the stage where it is viable outside the mother’s uterus is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and is \_\_\_\_\_\_\_\_\_\_ weeks from the first day of the last normal period. During labour, there are three stages: In the first stage, there is dilation of the \_\_\_\_\_\_\_\_\_\_\_\_\_ to accommodate the baby’s head. This stage is the longest, lasting on average \_\_\_\_\_\_- hours. The second stage includes the delivery of the \_\_\_\_\_\_\_\_ down and out the vagina. The stage is the separation and expulsion of the \_\_\_\_\_\_\_\_\_\_ from the \_\_\_\_\_\_\_\_\_\_\_.

Changes in the child during birth

An unborn baby’s circulation differs from that of an adult in that the blood passes directly from the \_\_\_\_\_\_\_\_\_atrium to the \_\_\_\_\_\_\_\_\_\_ atrium through a hole in the septum called the foramen \_\_\_\_\_\_\_\_\_\_\_\_. Most of the blood passing in the pulmonary artery from the ventricles is diverted to the aorta by a connection called the \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ while blood returning from the umbilical vein to the baby is shunted past the liver via the \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. At birth the foramen ovale is forced shut dues to the pressure of the \_\_\_\_\_\_\_\_\_ entering from the lungs. The over ducts shrivel to form \_\_\_\_\_\_\_\_\_\_\_\_\_ tissue ensuring that the newborn baby has the same circulation as that of an adult.

Terminology:

The fertilised ovum

Layer of cells that give rise to the nervous system

Developing child up to the age of 2 months

Solid ball of cells produced by cell division

Outer most membrane surrounding the baby

Structure allowing the baby to receive its nutrients

Finger-like projections forming part of the placenta

Childbirth

Period between conception and birth