

PLACENTA

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PLACENTA

A membranous vascular organ that develops in female mammals during pregnancy, lining the uterine wall and partially enveloping the fetus, to which it is attached by the umbilical cord. Following birth, the placenta is expelled. The placenta forms from both embryonic and maternal tissue.

The word (placenta) is derived from the Latin meaning a flat cake.

Origin:

- The placenta develops from the chorion frondosum (fetal origin) and decidua basalis (maternal origin).

Position: in the upper uterine segment (99.5%), either in the posterior surface (2/3) or the anterior surface (1/3).

The placenta at term is circular in shape forming a spongy disc 20 cm in diameter and 2.5 cm in thick and weight 500g .it has a fetal and maternal surface

The fetal surface is covered by smooth amnion underneath which is the chorion.

The maternal surface is rough and Spongy and presents a no. of polygonal areas known as cotyledons. The number of cotyledons is between(15-20).

Functions of the placenta:

1-it enables the fetus to take oxygen and nutrients from maternal blood.

2-it serves as the excretory organ of the fetus; carbon dioxide and other waste product pass from fetal to maternal blood.

3- it forms a barrier against the transfer of infection to the fetus but some can pass as the spirochetes of syphilis & rubella virus.

4- It secretes hormones as gonadotrophin, estrogen and progesterone & other hormones which play an essential part in the maintenance of the decidua & growth of the uterus & breast.

Abnormalities of the placenta:

1-abnormalities in the site of implantation: normally it is attached to the uterine wall near the fundus either on the anterior or posterior surface. In 1 in 250 pregnancies the placenta is implanted wholly or partly on the lower segment of the uterus

(placenta praevia) .

2-Abnormal Adhesion;

Placenta Accreta : The chorionic villi penetrate deeply into the uterine wall to reach the myometrium. When the villi penetrate deeply into the myometrium, it is called "***placenta increta***" and when they reach the peritoneal coat it is called "***placenta percreta***".

3-abnormal Shape:

A- BILOBED PLACENTA: The placenta consists of two equal lobes connected by placental tissue.

B- *placenta Succenturiata* (Accessory Lobes).

The placenta consists of a large lobe and a smaller one connecting together by membranes. The umbilical cord is inserted into the large lobe and branches of its vessels cross the membranes to the

small succenturiate (accessory) lobe. The accessory lobe may be retained in the uterus after delivery leading to postpartum haemorrhage. This is suspected if a circular gap is detected in the membranes from which blood vessels pass towards the edge of the main placenta .

c-Placenta Fenestrata ;

A gap is seen in the placenta covered by membranes giving the appearance of a window.

4-Abnormal Weight;

- The placenta increases in size and weight as in congenital syphilis, hydrops fetalis and diabetes mellitus.

5-Placental Lesions;

Placental Infarcts:

Seen in placenta at term, mainly in hypertensive states with pregnancy.

White infarcts: due to excessive fibrin deposition. Normal placenta may contain white infarcts in which calcium deposition may occur.

Red infarcts: due to haemorrhage from the maternal vessels of the decidua. Old red infarcts finally become white due to fibrin deposition.

Placental Tumour:

Chorioangioma is a rare benign tumor of the placental blood vessels which may be associated with polyhydramnios.

The umbilical cord;

It forms the connection between the fetus and the placenta.

The constituents of the cord :

1- the covering epithelium is a single layer of amnion.

2-Whartons jelly :is part of extra-embryonic mesoderm.

3-blood vessels: 2 arteries and one vein.

4-the allantois; blind end tube reach the cord to the bladder.

The umbilical cord is commonly 50 cm in length(180-7.5) and about 1 cm thick, but it is not uniform it have nodes & swellings caused by

dilatation of the umbilical vein these called *false knots* .sometimes *true knots* develops due to the fetus passing through a loop in the cord if this become very tight this obstruct the fetal circulation and the fetus is at risk ,this usually occurs when the cord is too long.

The cord is usually inserted in the center of the fetal surface of the placenta . Occasionally the cord is inserted into the membranes of the fetal sac some distance from the edge of the placenta. In these cases the umbilical blood vessels run through the membranes between placenta

and cord this is

(velamentous insertion) . This form of insertion is more dangerous because, when membranes of the fetal sac rupture or when an amniotomy is done, the blood vessels may be damaged

and bleeding occurs.

REFERENCES;

1-DEWHUREST TEXTBOOK OF GYNAECOLOGY AND OBSTETRIC.

2-OBSTETRICS BY TEEN TEACHERS.

