

Match the following terms to the correct species and description:

C Diffuse A Zonary D Discoid B Cotyledonary

- a. Placentas have a band-like zone of chorionic villi ; cats and dogs
- b. Numerous, discrete button-like structures ; ruminants
- c. Uniform distribution of chorionic villi ; mare and sows
- d. Placenta form a regionalized disc ; rodent and primates

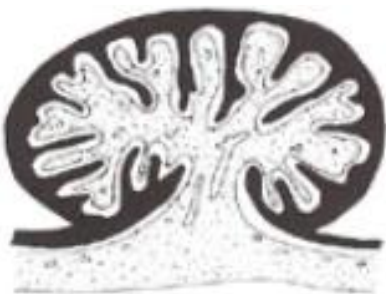
Name the different types of placenta in order of least intimate to most intimate.

Epitheliochorial, endotheliochorial, hemochorial

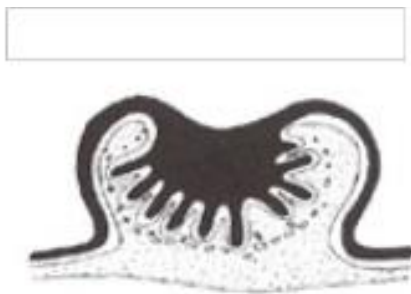
Why is the order the way that it is?

- The epitheliochorial placenta : there are many layers between the fetus and mother (there is also a complete layer of epithelium on both components of the placenta) sow and mare have this as well as ruminants but it's a little different
- The endotheliochorial placenta : no longer has a endometrial epithelium (cats and dogs)
- The hemochorial placenta : there is only 3 layers between the fetus and maternal side of the placenta (rodents and primates/humans)

What species do these placentomes come from?



Cow



Ewe



Mare

What are the general portions of placentation?

Endoderm, mesoderm, amnionic cavity, allantois, chorion + allantois fuse = allantochorion

Implantation can happen a few different ways. What species does the conceptus “bury” itself into the uterine endometrium?

Rodents and humans

What makes up a placentome?

Caruncle and cotyledon

What part of the placenta is made up of fetal tissue? Maternal tissue?

Chorion ; uterine endometrium modifications

What are some hormones produced by the placenta?

Placental P4, estrogen (E2), placental lactogen, placental relaxin, eCG, hCG

The placenta is the **organ*** that transports nutrients, respiratory gases and waste between the maternal and fetal systems. It also serves as a transient **endocrine*** organ that can produce a variety of hormones that are important for pregnancy and the onset of **parturition***.

What does placental P4 and estrogen do?

P4 blocks myometrial contractions with complete late term control in some species

Estrogen peaks close to term (needed for parturition cascade)

What does placental lactogen do?

Stimulates the mammary glands and fetal growth

What does placental relaxin do?

Relaxes the pelvic ligaments before parturition

Fill in the following table:

Species	Gestation Length	Time of Placental Takeover
Cow	9 months	6-8 months
Ewe	5 months	50 days
Goat	5 months	None
Mare	11 months	None
Sow	3.8 months	None
Woman	9 months	60-70 days

What triggers the on-set of parturition?

The fetus/fetal stress that allows for a release of adrenal corticotrophin (ACTH) released by the anterior pituitary.

What does ACTH stimulate the fetal adrenal cortex to produce and secrete?

Corticoids

What removes the “progesterone block” and increases reproductive tract secretions?

Fetal corticoids

What are the stages of the parturition process?

Stage 1- myometrial contractions (dilation of cervix occurs, hips sink in, etc.)

Stage 2- expulsion of fetus (entry of fetus in birth canal, OT release, etc.)

Stage 3- expulsion of fetal membranes