



PROBLEMS OF PREGNANCY

A. Fetus problems

1. Superfecundation (تنوع الأجنة (اختلاف الآباء)

Superfecundation occurs without causing problems when offspring from more than one sire are conceived at the same estrus period. It is seen chiefly in vagrant dogs and cats, but also cow served by more than one bull. The owner may seek help to establish the parentage of the offspring with particular sires. This can be done by genetic profile. On many pig farms, sows are routinely served by more than one boar and hence Superfecundation is widespread but not obvious if boars are of the same breed.

2. Superfetation (أجنة مختلفة الأعمار)

Superfetation occurs when an animal that is already pregnant comes into estrus, is served, and conceives a second litter. This occurs in wild species such as the kangaroo and there are periodic reports of the phenomenon occurring in the swine. Superfetation may appear to occur and the veterinary obstetrician may be consulted in certain circumstances, for example, equine twin abortion: the mare may produce two foals of very different sizes, one having died some weeks earlier.

3. Telegony تلوث الرحم

It is a misconception that a purebred animal mated accidentally by a mongrel may never breed true again, believed occasionally by some dog and horse breeds.



4. Ectopic Pregnancy الحمل خارج الرحم

The fetus was developing outside the uterus. It's common in humans. In this condition, urgent surgery is necessary to terminate the problem. There are two types of ectopic pregnancy which are:

- a) **True ectopic pregnancy:** it occurs when the embryo attaches to the other uterine tissue (like omentum or oviduct etc.) and continues in development. This condition is more common in humans when the embryo develops in the oviduct, and it will lead to the tearing of the oviduct and cause severe bleeding, it also may occur in animals.
- b) **Secondary ectopic pregnancy:** this case occurs when the embryo is normally developed in the uterus and then escapes outside of the uterus like in the peritoneal cavity or vagina for many reasons like uterine torsion or uterine rupture.

5. Twins التوائم

The animals are divided into monotocous (that animals often bear one fetus in each pregnancy like mare and cow) and polytocous (that animals which bear more than one fetus in each pregnancy like ewe, doe, sow, queen cat, and bitch). In monotocous animals the twin may combine with many complications such as abortion, premature birth, and dystocia, therefore the twin considers a problem in these animals (especially in mare).

6. Embryonic death نفوق الأجنة

Termination of pregnancy may occur at various stages:



1. Before maternal recognition of pregnancy (before 14 days of gestation in cow), in which case the length of the cycle is not affected (**early embryonic death**). Early embryonic death considers the main cause of repeat breeding in cattle.
2. After maternal recognition of pregnancy is associated with a delay in the length of the cycle. This time between 14 days of gestation to 45 days (**late embryonic death**).
3. The fetal stage (after 45 days of gestation) is called (**advanced fetal death**).

Causes: Genetics factors and chromosomal aberration, Infections, Immunological, Environmental, Nutrition, and Endocrine imbalance.

7. Abortion

- **Abortion:** the expulsion of a dead conceptus or a living one incapable of life.
- **Premature delivery:** preterm birth of the immature viable fetus.
- **Stillbirth:** live fetus expelled at term but it is weak and dead after this.

Abortion in dairy cattle is commonly defined as a loss of the fetus between the age of 45 days and approximately 260 days. Abortion is usually caused by agents affecting the fetus, fetal membrane, or endometrium.

Common Causes of Abortion

1. Infectious causes include:

- a) Bacterial infection such as [Brucellosis, Campylobacteriosis (vibriosis), leptospirosis, listeriosis
- b) Protozoa (trichomoniasis).



- c) Viruses (infectious bovine rhinotracheitis IBR, epizootic viral abortion EVA).
- d) Mycoplasma infection.
- e) Fungal: mycoses (aspergillus).

2. Non-infectious causes:

- a) Chromosomal abnormalities
- b) Nutritional: toxic plants, nitrate poisoning, Phyto-oestrogens, iodine, vit. A selenium deficiency, lead, and cadmium poisoning.
- c) Stress: handling, high body temperature, trauma, surgery, vaccinations
- d) Miscellaneous: multiple pregnancies (twinning), insemination during pregnancy, corticosteroid & prostaglandin therapy, Allergy, dehydration.

SEQUELAE TO EMBRYONIC OR FETAL DEATH

1. Abortion.↑

2. Fetal mummification

This occurs in cases of fetal death without regression of the corpus luteum and fetal expulsion, followed by autolysis changes, absorption of the fetal fluids, and involution of the placenta. In cows the maternal caruncles involute and hemorrhage occurs between the placenta and the endometrium, leaving a reddish-brown, gummy mass that imparts a reddish-brown color to the mummified fetus and the case called **hematic mummification**. If there is no bleeding occurs; the case is called **papered mummification**.



Causes:

The etiology is varied and ranges from infectious causes such as BVD, leptospirosis, etc. to non-infectious causes such as genetic, compressed umbilical cord, etc.

Diagnosis:

Diagnosis is based on the presence of a CL, the lack of fremitus in the uterine artery, and the lack of fetal fluid in the uterus. The fetus feels dry and mummy-like on palpation. Often the head, ribs, etc. can be felt.

Prognosis: is good if the fetus is removed. After the fetus is removed, conception usually occurs 1-3 mo. later.

Treatment: is accomplished by administering PGF2a (with or without estrogen) to lyses the CL. After treatment, check the vagina because sometimes the mummy may be lodged in the vagina when expelled.

3. Fetal Maceration

Fetal maceration results from the death of the fetus followed by dilation of the cervix and incomplete abortion or dystocia, usually during the last half of gestation. This condition can be due to a variety of miscellaneous organisms.

Diagnosis

On palpation per rectum, the uterine wall is thick, little or no fluid is present in the uterus and you may be able to palpate fetal bones and pus, or bones crepitating against each other in the uterus.



Prognosis

The prognosis is poor for cows with this condition. This is not a "regression CL" problem, so a lysis of the Cl is not helpful. Endometrial damage is present even if all fetal parts are removed.

Treatment

Treatment is very difficult. The cervix cannot usually be dilated sufficiently to remove all the fetal parts and any remaining fetal parts act like an IUD. Surgery has been performed on valuable individuals but is very difficult.

B. Problems with fetal membranes

1. Hydropsy fetal membrane

Both the amniotic and allantois sacs can contain excessive quantities of fetal fluid; when this occurs, it is referred to as hydroamnios or hydroallantois, depending on which sac is involved. Hydroallantois is much more common than hydroamnios, although the latter is always seen in association with specific fetal abnormalities such as the "bulldog" calf.

A. Hydroallantois:

Also called hydrops of the allantois is due to a defective placenta (the chorioallantoic). The fetus is normal and the condition is characterized by a rapid accumulation of watery, clear fluid, usually in the last trimester.

Clinical signs:

1. The cow is rounded in the caudal view, and you normally can't palpate the fetus or placentomes.



2. The condition results in a sick cow with anorexia, decreased rumen motility, dehydration, and weakness.
3. The cow may be down.
4. The placenta is thick. If the cow survives, postpartum metritis is common.
5. The condition usually ends in death if there is no intervention.

Prognosis: guarded to poor for life and fertility.

Treatment: Dexamethasone can be used if the cow is not down or consists of a caesarian section.

B. Hydroamnios

Also called hydrops amnions, is due to a defective calf, usually attributed at least partly to a defect in swallowing. The placenta is normal. The condition is characterized by a gradual accumulation of thick fluid during the last half of gestation.

Clinical signs:

1. We can palpate the fetus and placentomes.
2. The cow is clinically otherwise unaffected.
3. The pregnancy usually goes to term, and frequently a small, deformed fetus is delivered.
4. Postpartum metritis is uncommon.

Prognosis: is good for life and fertility. **Treatment:** no treatment is required.