

# **Dropsical conditions of fetal membranes and fetus**

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# Diseases and accidents of gestation

1. Extrauterine pregnancies
2. Dropsy of fetal membranes
3. Abdominal hernia resulting in hysterocele
4. Cervicovaginal prolapse
5. Uterine torsion
6. Fetal mummification
7. Fetal maceration
8. Paraplegia of pregnancy
9. Hemorrhage of pregnancy
10. Rupture of gravid uterus
11. Strangulation of the large colon by the gravid uterus
12. Strangulation of the gravid uterus by a pedunculated lipoma

# Dropsical condition of fetal membranes and fetus

- 1) Oedema of allanto chorion
- 2) Hydroamnios or hydrops of amnion
- 3) Hydroallantois or hydrops of allantois
- 3) Dropsy of the fetus

# 1) **Oedema of the placenta or Allanto-chorion**

- It is characterized by severe and extensive edema of the fetal membrane.
- It accompanies a placentitis.
- Frequently associated with abortion.
- *Brucella abortus* infection causes placentitis.

## **2) Dropsical condition of the fetal membranes**

- Includes hydrallantois and hydramnios.
- Occurs most frequently in cattle.
- Overall incidence is 0.3% and among them hydrallantois encountered most frequently(88%)

## A) Hydramnios

1. It is defined as excess accumulation of amniotic fluid in amniotic cavity that is associated with a genetic or congenitally defective fetus.
2. Species affected: most commonly in cattle but rarely in sheep, pigs and carnivores.
- 3. Not reported in horses.

## **ETIOLOGY AND PATHOGENESIS:**

- At mid gestation amniotic fluid is watery and slight yellow in colour.
- From mid gestation onwards fluid becomes more viscid and glairy because the watery fluid is swallowed or inhaled into large bronchi and absorbed, large vol of saliva is continuously produced.
- In defective fetus swallowing is impaired and fluid increases about 20 to 120 litres.
- Normal vol of amniotic fluid is about 4-8 litres.

# Hereditary condition resulting in defective fetuses associated with Hydramnios

- Dexter cattle pregnant with “bull dog” calves.
- Argus cattle pregnant with brachygnathic fetus.
- Hydrocephalus fetus in hereford cattle.

## Symptoms:

- Abdominal wall is pear shaped and less tense.
- Hydramnion develops during later half gestation .
- In rectalexamination uterine horns are hard to palpate, not very tense.
- Often the condition is not recognized until parturition when large quantities of syrupy ,viscid,amniotic fluid occasionally containing muconium is released.



## Treatment

- Dystocia if any should be corrected and fetus is relieved.
- Cesarean .
- In close cervix after confirming condition – parturition is induced with Prostaglandin f2 alpha.
- After relieving fetus fluid therapy, antibiotics, antihistaminic and corticosteroid is given.

## B) Hydrallantois

- “It is characterized by sudden and excessive fluid accumulation in the amniotic cavity”
- Seen sporadically in dairy and beef cattle.

# Etiology and pathogenesis:

- Associated with diseased uterus in which most of the caruncles of one horn are not functional and rest of placentomes are greatly enlarge and possibly diseased.
- Structural or functional changes in allantois-chorion including blood vessels.
- It results in transudation and collection of fluid resembling plasma and differing from normal allantoic fluid.
- Presence of cystic kidneys, hydronephrosis in fetus result in polyuria may cause hydrallatois.
- Vit A deficiency.
- In older animals - more common due to lack of caruncles .

# Clinical signs

- May not diagnosed until parturition.
- At parturition- an excessive clear, watery, amber colour fluid.
- The fetal membrane may be tough and rupture with difficulty.
- Uterus is greatly enlarged and atonic.
- Fetus exhibit some edema and ascitis
- Dystocia occur at the time of parturition/abortion.
- Cow may drink excessive water, pulse increase to 90to140/minute and is weak and wiry.
- Anorexia, lack of rumination and constipation.

## Clinical signs (Cont.):

- As the condition progress, the abdomen becomes more distended.
- The cow loses body condition and unable to rise.
- Dislocation of hips or backward extension of the rear limb.
- The cow lies on her sternum looking like a “bloated bull frog”.
- Ventral hernia may occur due to excessive wt of the uterus.

# Differential diagnosis

<b>Hydrallantois</b>	<b>Hydraamnios</b>
<b>Occurs in 85 – 90 % of cases of uterine dropsy</b>	<b>5-10 %</b>
<b>Abdominal enlargement develops rapidly within 5-20 days</b>	<b>Develops slowly over weeks and months</b>
<b>Abdominal wall is round, distended and tense</b>	<b>Pear shaped and less tense</b>
<b>Distended horns of uterus are easily palpable per rectum and fills the abdominal cavity</b>	<b>Hard to palpate, not very tense and ut. Horns don't fill the upper and caudal abdominal cavity area</b>
<b>Fetus and placentomes are not easily palpated or balloted per rectum</b>	<b>Cant be balloted or palpated</b>
<b>Allantoic fluid is watery, clear and amber, with characteristics of a transudate</b>	<b>Amniotic fluid is syrupy and viscid and often contains muconium</b>

<b>Normal fetus , Ocassionally small twins</b>	<b>Defective anomalous fetus or monsters</b>
<b>Placenta specially allanto chorion is diseased with reduced no. of greatly hypertrophied placentomes</b>	<b>Normal</b>
<b>After removing much fluid by caesarian operation by allantocentesis, the allantoic cavity rapidly fills again</b>	<b>Caesarian- amniotic cavity does not fill Aminocentesis - gradually</b>
<b>Retained placenta and severe metritis usually occurs</b>	<b>ROP- Ocassionally Metritis- less common</b>
<b>Sequele such as uterine rupture, abdominal hernias and dislocation of hip are common in severe cases</b>	<b>Rare due to gradual onset and the nature of the diseases</b>
<b>Prognosis- Guarded to poor for life and fertility</b>	<b>Prognosis- fair to good for life and fertility</b>

## **3) Dropsy of the fetus**

**1) Hydrocephalus**

**2) Ascitis**

**3) Anasarca**



# **FETAL HYDROCEPHALUS**

- **Involves a swelling of the cranium due to an accumulation of fluid that may be in ventricular system or in between the brain and the dura**
- **Species affected: ALL but Most commonly - pigs, puppies and calves**
- **In more severe case- marked thinning of the cranial bones**
- **The dome of the cranium may be sawn off with fetotomy wire**
- **Cesarean section is perform in severe case**

# Fetal Ascites

- **Dropsy of peritoneum is common complication of infectious disease of the fetus and developmental defects like an achondroplasia.**
- **Aborted fetuses are often dropsical.**
- **When the fetus is full term, ascitis may cause dystocia.**
- **This can be relieved by incising fetal abdomen with fetotomy knife.**

# Fetal Anasarca

- Characterized by great increase in fetal volume caused by excess of fluid in the subcutaneous tissues.
- Particularly of the head and hind limbs.
- There is frequently an excess of fluid in the peritoneal cavity and pleural cavities with dilatation of the umbilical and inguinal rings.
- Substance of fetal membrane is also edematous.
- At the time of delivery multiple incision are made over the body of the fetus.