

2024 Batch-Lecture No. 9

Pregnancy examination---continue

Zemjanis and others have described the important technique for manual retraction of the non pregnant or one to three month pregnant bovine uterus into the pelvic cavity from the abdominal cavity to facilitate its examination.

- i. This involves caudal traction on the cervix, then further caudal traction on the ventral inter-cornual ligament.
- ii. The cranial border of the broad ligament medial to the ovary may also be retracted.
- iii. In particularly difficult cases the application of Knowles cervical forceps to the external cervical os is helpful in retracting the uterus. This causes little trauma.
- iv. The ovary may be grasped and slid between the middle and third fingers and held there while it is carefully palpated by the thumb and index finger.

PREGNANCY DIAGNOSIS BY RECTAL METHOD:

1. Taking into consideration a number of factors including the age of the cow, rectal examination to diagnose pregnancy can be made quite accurately from about 35 days after conception.
2. It is easier to detect early pregnancy in heifers than in cows.
3. After 45 to 55 days of gestation, pregnancy diagnosis is usually easy for the experienced veterinarian.
4. There are reports which indicates that the earlier in gestation a diagnosis of pregnancy is made the greater the chances of early embryonic or foetal death occurring.
5. This is especially true for the 30-45 day diagnosis.
6. Incidence of foetal death from 60 days to term is lower.
7. The examination itself, if done carefully and gently, may not be a factor in these losses but this cannot be ascertained with accuracy.
8. Several examination of an early 30 to 45 day, pregnant bovine uterus by in experienced student examiners frequently result in abortion.

- i. 30 to 45 day amniotic vesicle may be ruptured or the embryo can be easily damaged by rectal palpation, manipulation and excess pressure.
 - ii. The most common cause of embryonic death is rupture of the heart or the vessels at the base of the heart resulting in haemorrhage into the amniotic cavity.
 - iii. Prompt or delayed abortions will follow within a few days or weeks.
9. The greatest incidence of abortion or foetal death not related to trauma occurs during organogenesis and attachment of the foetal membranes the first six weeks of pregnancy in the cow.
10. This natural foetal death rate may be augmented by early pregnancy diagnosis per rectum.
11. Thus it behoves veterinarians to be particularly gentle and careful if early diagnostic examinations are made and possibly to re-examine and re-confirm the pregnancy after 55 to 60 days of gestation or to avoid early routine pregnancy examination if only one examination is to be made.

THE DEFINITE OR CERTAIN SIGNS OF PREGNANCY IN THE COW AS DETERMINED BY A RECTAL EXAMINATION ARE:

1. The palpation of the enlarged horn containing the placental fluids from 30 to 90 days of gestation,
2. The careful, very gentle palpation of the amniotic vesicle in early pregnancy, 30 to 50 days,
3. The slipping of the foetal membranes, allantois chorion, upon gentle pinching of the uterus with the thumb and forefinger in early pregnancy, 40 to 90 days,
4. The palpation or ballottement of the foetus in the enlarged uterus containing foetal membranes and placental fluids,
5. The palpation of the placentomes,
6. The palpation of the enlarged, thin walled, "whirring" uterine arteries.

LESS DEFINITE SIGNS OF PREGNANCY INCLUDE:

1. Increase in size of the uterus and
2. A thinning and distension of its walls,

3. Its location in the abdominal cavity,
4. The location, size and persistence of the corpus luteum and
5. Vaginal Changes.

UTERINE CHANGES DURING PREGNANCY:

1. During early pregnancy, the uterine horns, especially the horn containing the foetus increase in size due to the distension of horn by the amniotic vesicle, placental fluids, the membranes and the foetus.
2. This increase in diameter of the uterine horns is characterized by a thinning of the uterine wall and a fluid, watery “alive” feeling of the uterine horn.
3. The uterine horns have a fair amount of tone due to their tenseness and distension.
4. From 40 to 90 days of pregnancy, the uterus feels somewhat like a thick rubber balloon nearly filled with water.
5. The approximate size of the horn containing the foetus during the first five months of pregnancy is as under.

Days of pregnancy	Diameter of horn	Days of pregnancy	Diameter of horn	Days of pregnancy	Diameter of horn
30	2-4 cm	60	6-9 cm	90	10-13 cm
40	3-6 cm	70	7-10 cm	120	12.5-18 cm
50	5-7 cm	80	9-12 cm	150	18-23 cm

6. Since the size of the foetus is small during the early stages of pregnancy the amount of fluid in the uterine horn largely determines its size or diameter.
7. The volume of fluid increases rapidly the first 5 months of pregnancy but increases more slowly after the fifth or sixth month.

THE SIZE OF AMNIOTIC VESICLE:

1. The size of amniotic vesicle varies, at 30 days 1 cm in diameter, at 40 days 2.5-3 cm, at 50 days 3.5-5 cm and at 60 days 6 to 7.5 cm.
2. The amniotic vesicle is spherical in outline up to 40 days, at which time it becomes oval.

3. The palpation of the amniotic vesicle in the free portion of the horn at 30 to 45 days of pregnancy is helpful in diagnosis because of its tense spherical nature.
4. Occasionally at 35 to 41 days of pregnancy the chorionic or trophoblastic membranes and fluid in the gravid horn but not the amniotic vesicle may be felt.
5. If the latter is not palpable the embryo may have been died and is macerating.
6. If the operator is experienced, skilful and gentle early embryonic death may be detected at 30 to 40 days of gestation by palpation of the amniotic vesicle.
7. Palpation of the amniotic vesicle should be performed very carefully and gently to avoid rupturing it or to avoid placing direct pressure on the embryo and its exposed organs.
8. The fingers and thumb gently palpate the gravid horn, as they are moved slowly back and forth the vesicle can be felt to slip between them.
9. If such an examination cannot be done skilfully and gently it is best to omit it.