

Pregnancy diagnosis

- **Practical importance of pregnancy diagnosis :**
 1. To detect if female is non-pregnant so it can be inseminated again .
 2. Monitoring the success of A.I .
 3. Allow to plan the future incoming production of herd .
 4. To take proper management step (mare & ewe) .
- **External signs of pregnancy in female :**
 1. Enlargement udder of heifer at 4th -5th month of pregnancy
 2. Enlargement of abdomen at late pregnancy
 3. Calmness due to progesterone
 4. Fetal movement by boring cold water on right flank and pressing animal right flank by fist of hand for detection of fetal movement .
- **Technique of pregnancy diagnosis :**
 1. Non-return to estrous cycle , but 7% of pregnant cow show estrous signs at early trimester of pregnancy .
 2. Clinical method :
 - Rectal palpation .
 - Ultrasonography .
 3. Lab. Method :
 - Estimation of some hormones as : eCG , P4
 - Estimation of pregnancy associated sub . As : protien B

Rectal palpation in cow (by detection of) :

1) Amniotic vesicle (A.V) :

- It is trigged structure palpated after 35 days till 60 days but become more clear bet. 35 – 45 days (which vesicle wall is flabby) .
- this technique not recommended for beginner to avoid crushing of cardiovascular system of fetus lead to end of pregnancy .
- It is easily palpated in heifer due to small horns .

<i>Day</i>	<i>Size</i>	<i>cm.</i>
<i>35th</i>	<i>0.5 finger</i>	<i>0.7</i>
<i>42nd</i>	<i>1 finger</i>	<i>1.5</i>
<i>45th</i>	<i>2 finger</i>	<i>3</i>
<i>48th</i>	<i>3 finger</i>	<i>5.5</i>
<i>52nd</i>	<i>4 finger</i>	<i>7.5</i>
<i>58th</i>	<i>Hand without thumb</i>	<i>9.5</i>

2) **Fetal membrane slip (F.M.S):**

- Done after 45 days of pregnancy by grasping thin wall of fluctuating uterus and allow slipping of corioallantois , uterine wall then rectal wall .
- Used in bovine only but not in equine .

3) **Placentomes :**

- Palpated after 90 days of pregnancy .
- It is small button like structure increased in size with aging of pregnancy
- It present more in greater curvature more than gravid horn .

4) **Fetus :**

- Can be ballotment after 60 days of pregnancy .

Month	Length \ cm.
2 nd	6
3 rd	15
4 th	25 – 30
5 th	40
6 th	50
7 th	70
8 th	80
9 th	90

Signs associated to pregnancy :

1. Corpus luteum .
2. Middle uterine artery :
 - Its palpation called : fremitus , buzz , thrilling , whirr .
 - Located at medial of shaft of ilium or anterior border of it .
 - It palpated after 4 months .
 - If pulsation is strong indicate vitality of fetus .

Month	Size
6 th	Small finger
7 th	Middle finger
8 th	thumb

Stages of pregnancy :

1) From 35th – 45th days:

- Asymmetry in two horn in pelvic cavity and attracted .
- Dorsal plugging in gravid horn (A.V)
- Fluctuation of gravid horn
- Found CL on ovary near gravid horn

2) **From 45th – 60th days :**

- Asymmetry in two horn in pelvic cavity and attracted .
- Gravid horn fill the hand
- Fluctuating of gravid horn
- Fetal membrane slip
- A.V is more soft .
- CL beside gravid horn

3) **From 60th – 90th days :**

- Enlargement of gravid horn which more towards pelvic rim
- Asymmetry and difficult to be retracted of gravid horn .
- It is at size of volley ball
- Make ballottement of fetus .
- Fetal membrane slip

4) **From 90th – 120th days :**

- Gravid horn found above pelvic rim toward abdomen
- Asymmetry and difficult to be retracted of gravid horn .
- Size at basketball can surrounded all pouncers of fetus
- Ovaries out of reach .
- Placentomes small in size .

5) **From 120th – 150th days :**

- Asymmetry , gravid horn move toward abdomen .
- Large in size which can't surround all boundaries of fetus .
- Placentomes has chest-nut like structure .
- Palpation for middle uterine artery .

6) **From 150th day – 210th day (5th – 7th month)** (descending day)

- String arm strong , cervix stretched over pelvic rim .
- Gravid horn descend toward abdomen .
- Fetus is out of reach but may make ballottement if reached .
- Placentomes is at periphery of gravid horn .
- Strong pulsation of middle uterine artery .

7) **From 210th -250th days (7.5th – 8.5th month)** (Ascending stage)

- Gravid horn return toward pelvic cavity .
- Ballotement of fetus and fetal movement .
- Middle uterine artery has strong pulsation .

8) **From 8.5th till full turn :**

- Head and forelimb in pelvic cavity .
- Middle uterine artery has strong pulsation .
- Large placentomes .

Differential diagnosis of rectal palpation

1. Pyometra :

- Doughy in consistency , no placentomes .
- No amniotic vesicle or fetus or F.M.S .
- Thick wall of uterus .
- It is two type :
 - I. Closed pyometra (due to infection after coitus)
 - II. Open pyometra

2. Hydrmetra & Mucometra :

- Hydrometra associate with cystic ovary .
- Mucometra associated with persistent hymen .
- They are fluctuating in consistency .
- No placentomes ,no amniotic vesicle , no F.M.S .
- Thin wall of uterus .

3. Mummified fetus :

- Hard mass adhered to thick uterine wall .

4. Macerated fetus :

- Hard bone float on doughy pus .

5. Urinary Bladder

Pregnancy diagnosis in buffalo

Similar to cow but differ in the following :

- Gestation period : 10 month \pm 10 days
- Uterine horn more appear in cow due to anatomical variation .
- We must differentiate bet. Urinary bladder which make miss diagnosis with gravid horn at 2 month of gestation .
- It is no attached to cervix , no F.M.S , no fetus or amniotic vesicle .

Pregnancy diagnosis in doe & ewe

1) Make abdominal palpation :

- In doe : we make abdominal palpation in standing position by raising abdomen of doe anterior to udder .
- In ewe : we make abdominal palpation in sitting position by press on one side of its abdomen and make palpation on other side .
- **Note that :**
 - Pregnancy more than 80 days can be palpated as hard mass indicate : fetus or fetu .

2) Ultrasonography :

- Which use it to detect crown rump length (distance bet. Head and tail) which indicate age of fetus .

Pregnancy diagnosis of mare

Technique of rectal palpation :

- Back racking of fecal matter to avoid miss diagnosis with ovaries .
- Evacuation of bladder .
- Identification kidney shape ovaries in sublumber region at end of tubular T-shape horns .
- Amniotic vesicle : is turgid structure which bulged near uterine body .
- No F.M.S due to diffuse placenta .

- No placentomes .
- Fetus detected by ballotement technique .
- **Note that :**
 - In some mares the abdominal enlargement decreased in heavy pregnancy due to strong abdominal muscle after ascending stage of gestation .

Pregnancy diagnosis of she – camel

A. Tail chalking :

- When male camel approach pregnant she-camel 15 days post mating , the she-camel move its tail in rapid movement and may be run .

B. Rectal palpation :

- Gestation period : 13 months .
- Similar to mare .