2024 Batch-Lecture No. 14, Dated: 20.03.2024

Pregnancy Diagnosis in Mare..... continued from previous class

UTERINE CHANGES DURING PREGNANCY:

1. There are changes in thickness of the uterine wall due to pregnancy plus palpation of chorionic or blastodermic vesicle, palpation of the changes in the size of the uterine horn, palpation of the foetus through the rectal wall constitutes the different methods of diagnosing pregnancy in mare.
2. Thickness of the wall of the uterus increases slightly in both pregnant and non pregnant mares from days 10 to 16 after the onset of estrum but from day 16 to 21 there is a 3-fold increase in thickness in the uterine wall in pregnant mare while in non pregnant mare the thickness of the uterine wall declines to a low point at the onset of next oestrum.
3. The tone of the uterine wall follows the same pattern with a definite increase in the tone of the uterine wall of both the pregnant and non pregnant mares to day 16 followed by a decline in tone in non pregnant mares to a soft flaccid state about one day before the next estrum. While in pregnant mares the uterine tone continues to increase after day 16 with the uterine horn becoming round and tubular about 5 days later.
4. Palpation of Chorionic or blastodermic vesicle:
    i. During pregnancy the uterine horns enlarge.
    ii. The earliest this can ordinarily be detected by 20 to 30 days.
    iii. This enlargement is characterized by circumscribed ventral bulge or distension of the uterine horn just to the right or left of the centre or bifurcations of the horns.
    iv. A dorsal bulging of the horn is not observed until after 40 days of gestation and then is not marked.
    v. This chorionic vesicle at first is slightly oval and then as it enlarges it assumes a more ovoid, tubular or sausage-shaped outline and extends into the body of the uterus about 60 to 90 days of gestation.
5. Palpation of the changes in the size of the horn and body:
    i. The pregnant uterus in the mare is usually suspended above or on the level of the floor of the pelvis until the third or fourth month of gestation, when it drops enough to rest on the abdominal floor and the ventral surface of the uterus cannot be palpated.
    ii. In older mares it may rest there by the third month.
    iii. By the fifth to sixth month of pregnancy the uterus is well forward in the abdominal cavity and the broad ligament is definitely under tension.
    iv. The ovary may be 20 to 25 cm below the lumbar vertebrae and is moved with difficulty because of the stretching of the meso-ovarium.
6. Palpation of the foetus through the rectal wall:
    i. It can usually be performed when 90 to 120 days of gestation when the foetus feels like a small, heavy, submerged but floating object as the hand contacts it.
    ii. It is possible to palpate foetus from 3rd month throughout the rest of the gestation period.
    iii. In a few deep bodied mares palpation of the foetus may be difficult from the fifth to seventh month of gestation. In these mares, the location of the uterus, the position

of the ovaries and the palpation of the enlarged, whirring uterine artery will aid or confirm a diagnosis of pregnancy

7. Foetal electrocardiograms may be employed to diagnose pregnancy in mares the last trimester of gestation.

EXAMINATION OF OVARIES OF THE MARE DURING PREGNANCY:

1. The ovaries of the mare during early pregnancy, differing from cow, are of no value in determining the uterine horn containing the foetus.
2. A portion of the corpus luteum is only palpable for a few days after ovulation in the region of the ovulation fossa before it is covered by the dense fibrous ovarian tunic.
3. Furthermore although ovulation occurs more commonly, 52 to 63 per cent, in the left ovary, about 60 percent or more of the foetuses develop in the right horn,
4. Apparently the fertilized embryo can undergo intrauterine migration in both directions.
5. Gestation period was divided into four periods in relation to the changes that occur in the ovaries.

First Period: From ovulation to 40 days	Second Period: From 40 to 150 days	Third Period: From 150-210 days	Fourth Period: From 210-Foaling
It was characterized by the presence of a single corpus luteum of pregnancy and a number of various sized follicles on both ovaries	As many as 10-15 follicles over 1 cm in diameter and the formation of corpora lutea, Ovulation occurs and usually 3 to 5 or more accessory corpora lutea are present in each ovary. The ovarian activity is due to PMSG production from endometrial cups from 40-120	Regression of corpora lutea, Absence of follicles Note: Progesterone produced from placenta maintains the pregnancy in absence of corpora lutea.	No corpora lutea or follicle Note: Progesterone produced from placenta maintains the pregnancy in absence of corpora lutea.

THE VAGINAL EXAMINATION AS AN AID IN PREGNANCY DIAGNOSIS:

1. It may be helpful but it is not as accurate as the rectal examination of the uterus.
2. By 30 days of pregnancy the normal equine vagina and cervix, on examination with a speculum, are very white and pale.
3. They are more white and pale than at any time during the estrual cycle and resembles a mare's vagina in anestrus during the winter months.
4. The mucous membrane is very dry, sticky and gummy.
5. There is less tendency for the vagina to balloon when the speculum is inserted than during the estrual cycle.
6. More of this gummy mucus is present on the mucous membrane of the vagina during pregnancy than during the anestrus period.
7. About 75 per cent of pregnant mares may show these characteristic vaginal changes.

8. The other pregnant mares may show a more hyperaemic or congested mucous membrane with less mucus.
9. In rare cases a vaginitis with a muco-purulent exudates may be seen.
10. The cervix in pregnant mares is usually tightly closed and small with a puckered external os.
    i. It is usually pulled downward and to one side.
    ii. The external os of the cervix usually becomes covered with gummy, sticky mucus.
11. In advanced pregnancy it may be easier to palpate the foetus through the vagina than through the rectum, as the mare object less to the vaginal examination.

DIFFERENTIAL DIAGNOSIS IN PREGNANCY EXAMINATIONS:

1. From 70 to 110 days a distended bladder may be confused with pregnancy.
2. Pneumo-vagina or a uterus filled with air might be mistaken for pregnancy.
3. From 90 to 120 days an enlarged or distended right colon or pelvic flexure of the colon might rarely be confused with a pregnant uterus.
4. Pyometra and mucometra associated with focal cystic degeneration of endometrium are occasionally found in the mare. The uterine wall may be thick and heavy and the fluid contents of the uterus sluggish.
5. Tumours are rare in the mare.
6. Mummification of a single foetus has not been observed in the mare.
7. Foetal maceration is uncommon.
8. Double ovulation occurs in 18 to 20 per cent of mares and twin pregnancies are quite commonly diagnosed.
    i. But the incidence of twin births is low, 1.0 to 1.5 per cent, due to
        (a) Embryonic or foetal death and abortion or possible of one or more often both foetuses,
        (b) Twin embryos may be detected early by the palpation of two chorioallantoic vesicles or ventral bulges, often with one in each horn,
        (c) Later twin foetuses might be palpated and
        (d) Both uterine arteries might be enlarged.