

TORSION OF THE UTERUS

Q.: How do you define torsion of uterus?

Q. Whether the arc of uterus in cattle gets twisted on longitudinal axis or transverse axis?

Q. What kind of torsion is seen in multipara?

Q. What is species wise incidence of torsion of uterus?

1. Torsion of the uterus may occur in all species of animals but it is common in dairy cattle, occasionally seen in beef cattle, dog, cat, sheep, goat and mare and rarely seen in sows.
2. Uterine torsion is usually defined as the revolution or twisting of the uterus on its long axis.
3. This might be true in mare, where torsion of uterus is uncommon due to the dorsally attached broad ligaments and tend to prevent torsion.
4. In other species of animals such as cow, sheep and goat, the gravid horn is in the shape of an arc or a U-shaped loop with the vagina and ovary at the respective ends of the arc.
5. Torsion involves the rotation of this arc on its transverse axis, similar to an intestinal volvulus.
6. This same type of torsion occurs in multipara when one horn rotates on its base.
7. A modification of this same volvulus type of torsion occurs in multipara when only a portion of one horn, containing usually only one foetus, may be twisted or rotated.
8. In unipara, because of the strong intercornual ligament and the distention of the uterine horns and body with placenta and fluid, both gravid and non gravid horns are involved in torsion.
9. It has been reported that torsion involving both horns of uterus cannot occur in the dog and cat.
10. Incidence of uterine torsion in dairy cattle was 7.3 percent in 1555 dystocia cases.

Q. What are the various causes of Torsion of Uterus in Cattle?

11. The possible causes for torsion in the cow are many. These can be divided into anatomical factors, way cow lies down and gets up and miscellaneous other factors.
12. Anatomical factors which play important role in causing torsion of uterus in cows are that uterus in advanced pregnancy is relatively unstable as explained below:
 - i. The lesser curvature of the uterus in advanced pregnancy is supported dorso-laterally by broad ligaments.
 - ii. The greater curvature lies free in the abdominal cavity resting on abdominal floor and supported by the rumen, the viscera and the abdominal walls.
 - iii. The ovarian end of the gravid horn of the bovine uterus is a relatively small or narrow base upon which the uterus rests
 - iv. If the non-gravid horn is small or non-functional the instability of the uterus is increased.

13. This anatomical arrangement, together with the manner in which the cow lies down, with the fore-quarters going down first, and rises, by elevating the rear quarter first, so that each time, the cow lies down or rises the gravid uterus is suspended in the abdominal cavity, means that a sudden slip or fall in either lying down or rising could cause torsion.
14. Other miscellaneous factors aiding in torsion of the uterus in advanced pregnancy are:
 - i. Lack of foetal fluid,
 - ii. Violence such as sudden fall or rolling as seen in dogs and cats
 - iii. Confinement in stables for long periods favours torsion of uterus in cows.
 - iv. Torsion of uterus is more common in pluriparous than in primiparous animals.
 - v. A lack of tone of the pregnant uterus—a condition composed of lack of fluids, flaccid uterine walls, a small non gravid horns, a long flaccid mesometrium favours uterine torsion.
 - vi. In a few cases strong movements of the foetus probably can cause uterine torsion.
15. Twin in ruminants tend to prevent torsion by making a broader base for the uterus to rest upon and by filling the abdominal cavity.
16. Uterine torsion is observed most commonly in advanced pregnancy.
17. However, cases of uterine torsion in the cow have been observed from 70 days of gestation to term.
18. Torsions occurring before the seventh month of pregnancy in the cow are unusual.
19. Reports have been published on several cases in which uterine torsion occurred in non pregnant uteri containing pus.
20. It was stated that most torsions occurred during the early part of the second stage of labour or the later part of the first stage.
21. This conclusion was based on observations that the cervix is found to be dilated immediately after the torsion is relieved in most of the dystocia cases due to torsion of the uterus.
22. In only occasional cases is there a severe edema due to venous congestion or other circulatory disturbance in the uterus or its contents.
23. In cases diagnosed early the foetus may still be alive.
24. Uterine torsion at this time may be favoured by unequal contractions of the uterus or by active movements of the foetus.
25. These movements are greatest during the first stage and early second stage of parturition.
26. Probably other factors may be involved in the torsion, as it appears difficult for either uterine contraction or foetal activity alone to produce torsion.
27. Uterine torsions of cattle of 180 degree may be present for days or weeks without clinical symptoms until labor begins and dystocia results. In these cases and many other similar cases, no evidence of circulatory interference was present.
28. If circulatory interference of the blood supply to the uterus was present, acute clinical symptoms and death of the foetus would probably occur.
29. During pregnancy 45 degree to 90 degree torsions or rotations of the uterus are rather frequently found on rectal examination.
30. These often appear to correct themselves before or at parturition.
31. For the above reasons many cases of bovine uterine torsion of 90 to 180 degree occur during the last few months of gestation, persist for weeks or months and only become evident at the time of parturition.

32. In unusual instances torsion of the uterus may involve a 180 degree to 360 degree rotation of the uterus.
33. Case involving two complete turns has been reported.
34. In these torsions of greater than 180 degree the birth canal at parturition is usually tightly closed, so that the cervix and the foetus are not palpable per vaginum.
35. These severe torsions cause obstruction to the blood supply of the uterus with resulting congestion, edema, shock, death of the foetus and even gangrene of the uterus.
36. In neglected cases transverse rupture of the uterus or vagina, emphysema and maceration of the foetus, shock, collapse, and death may occur.
37. In rare cases one of the large uterine vessels may rupture, followed by severe haemorrhage into the abdominal cavity.
38. In the dog transverse rupture of the twisted segment of the uterus often occurs at parturition when the uterus contracts and the dead foetuses are released into the abdominal cavity.
39. Rarely uterine torsion may be associated with mummification of the foetus late in gestation instead of emphysema and maceration.
40. This probably occurs in the absence of infection, haemorrhage and air in the uterine cavity.
41. Mummification of extra-uterine foetuses in the abdominal cavity have been reported.
42. In torsion in cows, mares & ewes the cephalic portion of the vagina is usually twisted.
43. Occasionally in a uterus lacking fluid or tone the uterus may occur cephalad to the cervix and in severe torsions at the time of parturition the twist may actually involve the cervix.
44. In multiparous animals, since there is no inter-cornual ligament, usually one entire horn rotates at the point of its junction with the body and the other horn.
45. Occasionally only a portion of the horn is involved, the twisted portion may occur anywhere throughout the horn.
46. In rare cases in multipara in which both uterine horns are involved in the torsion, the cranial portion of the vagina is twisted.
47. There are a number of reports in the literature on multipara in which the twisted portion of the horn or the entire horn with its foetuses separated completely from the body of the uterus during pregnancy.
48. The foetuses may rupture from this blind sac into the abdominal cavity at the time of parturition or this separated portion of the horn may be walled off as a passive body in which the foetus or foetuses may macerate or mummify.
49. The torsions in uniparous animals are either torsions to the right (clockwise) or to the left (Counter clockwise).
50. Most authors agree that right torsion occurs more often than left.
51. Others state that if the right horn is gravid the torsion is to the right and if the left horn is gravid the torsion is to the left.
52. This latter statement is not always true.
53. If it were, it might explain why right torsion is more common, since right horn pregnancies are more common than left.
54. Probably the rumen occupying the left side of the abdominal cavity tends to prevent left torsions.

