Veterinary Obstetrics

Uterine Torsion in Farm Animals

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Uterine Torsion:

- Rotation of the uterus on its longitudinal axis is called as uterine torsion.
- Uterine torsion is usually defined as the resolution or twisting of the uterus and sudden fall or slip at that moment can cause the uterus to twist on its long axis called a uterine torsion.
- Torsion of the uterus may occur in all species of animals.
- Uterine torsion is one of the frequent maternal causes of dystocia in river buffaloes and cows that commonly occurs near parturition and less commonly during gestation.

Sign and Symptoms

- Torsion of the uterus is a cause of dystocia in all domestic species. It is most common in buffaloes, relatively common in cattle, and relatively rare in other domestic animals.
- Uterine torsion occurs most commonly in cows in the last stage of pregnancy but it can occur as early as 70 days gestation and as late as the day of calving. Torsions over 180 degrees tend to obstruct blood supply to the uterus, causing fetal death. In advanced cases, the fetus can turn gangrenous and kill the cow.
- Uterine torsion is a complication of late first stage or early second stage labour, although nearly all cases occur during first stage labour.

Caused by rumen pressure on the pregnant uterus or calf activity in the uterus. No matter the cause, a uterine torsion has two serious consequences:
A. Blood supply to the uterus and the calf may be cut off.
B. The birth canal is wound up like a twisted towel, closing the passage through which the calf should exit.

**Uterine Torsion in Cattle**

- In other species of animals such as the cow, ewe, and doe, 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.
- Torsion involves the rotation of this arc on its transverse axis, similar to an intestinal volvulus. This same type of torsion occurs in multipara when one horn rotates at its base.
• Uterine torsions of cattle of 180° may occasionally be present for days or weeks without clinical symptoms until labor begins and dystocia results.
• During pregnancy 45° to 90° torsions or rotations of the uterus are rather frequently found on rectal examination.
• In torsions of greater than 180° to 240° the birth canal at parturition is usually tightly closed, so that the cervix and the fetus are not palpable per vagina.
• Torsions in uniparous animals are either torsions to the right (clockwise) or to the left (counter-clockwise).
• Uterine torsions in mares, most cases occurred from 8 months of gestation to term, average 9 months, with torsions of 180 to 360 degrees. In advanced severe cases in which gangrene of the uterus is present, laparohysterectomy is indicated in the bitch and queen.
This might be true in the mare, where torsion of the uterus is uncommon due to the dorsally attached broad ligaments that tend to prevent torsion.

Torsion of the uterus is most commonly observed in water bufalloes or dairy cows and is occasionally seen in beef cows, bitches, queens, ewes, does and mares and rarely seen in the sow.

Uterine torsion is observed most commonly in advanced pregnancy occurring before the seventh month of pregnancy in the cow are unusual.

These severe torsions may cause obstruction of the blood supply to the uterus, with resulting congestion, edema, shock, death of the fetus, and even gangrene of the uterus.

Rarely uterine torsion may be associated with mummification of the fetus late in gestation, instead of emphysema and maceration,In cows, ewes and does the cephalic portion of the vagina is usually twisted.
Treatment

- Choice of treatment will depend upon experience of Veterinarian, severity of torsion and condition of dam.

Per-Vaginal Foetal rotation

- It depends upon degree of torsion and amount of cervical dilatation. With rotation of $90^\circ$ the fetus can be easily rotated manually into a normal dorso-sacral position if torsion is in the range of $90-180^\circ$ and cervix is dilated then this is the method of choice with rolling of dam being the next.

Rolling of Dam

- Rolling is indicated if dam is recumbent and the fetus is not approachable due to severity of torsion or if torsion has occurred before expected time of parturition. Before rolling, stabilization of dam is necessary with fluids and life saving corticosteroids.
Schaffer's method

It is a modification of rolling method.
The cow is casted on the same side as the direction of torsion. The legs are tied in the same manner as in the above method.

- Rolling can be done with or without plank with varying degree of success, when using plank (12 feet long and 10 inch wide) is placed on the upper paralumbar fossa. In Schaffer’s method, principle is to rotate dam to same degree and direction to which the uterus has rotated, keeping the fetus fixed by fixing uterus with a plank.
- The plank is placed on upper paralumbar fossa of dam in an inclined manner with lower end on ground. Next step is to slowly roll over the dam on its back. At the same time, an assistant stands on the plank to modulate pressure first on the left side (when animal is casted on right side), followed by ventral abdomen and lastly on right side. After each roll, effectiveness of roll is judged by vaginal or rectal examination.
• The oldest way to treat torsions is to roll the cow. This is preferably done outside on a grassy slope with the cow’s head positioned lower than its rear. At least three people are needed to rope the cow onto its side and sometimes the cow needs sedation to allow handling.

• As the cow is rolled in the correct direction, its heavy uterus is slower to move than its body, so the torsion is relieved.

• This procedure may need to be repeated several times. Another method involves placing a plank over the cow’s abdomen to hold the uterus in place while it is rolled.

• Some veterinarians advocate having an arm in the vagina to hold the uterus in place, but most consider this unnecessary. Surgery is another option. An incision is made in the cow’s flank and the torsion is relieved by rotating the uterus in the abdomen.

• The advantage of this method is that a caesarean can be done at the same time if the calf is full term.

• In brief, after ascertaining the side of torsion, animal is casted carefully in lateral recumbency on the side of direction of torsion and front and hind limbs are secured separately.

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