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Popular Article

Uterine torsion in buffaloes-A single largest cause of maternal dystocia

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Uterine torsion in buffaloes revealed that it is the single largest cause of maternal dystocia recorded in Teaching veterinary clinical complex, Veterinary Poly clinics and Veterinary mobile clinics. Diagnostic evaluation of the uterine torsion by *Transrectal palpation of the broad ligaments* which deviate from the normal anatomical position. The success of management of the uterine torsion depends on correct diagnosis and timely presentation of cases followed by medical and obstetrical managements. Torsion of the uterus occurs in a gravid uterine horn and is defined as the rotation or twisting of the gravid uterus on its longitudinal axis. The common cause of dystocia in buffaloes concern uterine torsion cases in buffaloes are up to 67- 83% of the dystocia presented at referral clinical units.

Predisposing Factors

Predisposing factors for uterine torsion include maternal and fetal associated factors.

A. Maternal Associated Factors

Attachment and musculature of Broad ligament, Enlargement of pregnant uterine horn, Location of the pregnant uterine horn, collapsed rumen condition, Body frame of the dam, Type of housing, Sudden movement of dam, Unsteady walk, Age of the dam, Hormonal profile.

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B. Foetal Associated Factors:

Calf birth weight, Fetal presentation, Reduced amount of amniotic fluid, Fetal movement and uterine tone. Fetal associated factors are most probable cause for uterine torsion, moreover weaker broad ligaments also contributed for torsion of uterus.

Diagnosis Of Uterine Torsion

I. Post-cervical uterine torsion

The pregnant uterus rotates about its long axis, with the point of torsion being the anterior vagina just caudal to the cervix. Cervix is not palpable with abrupt closing of the vagina.

- In less than 90°- Hand could be passed to palpate the external Os of the cervix with some resistance.
- In 90°-180°- One or two fingers can be passed.
- In more than 360°: Abrupt stenosis due to the point of torsion being the anterior vagina just caudal to the cervix.

II. Pre-cervical uterine torsion

Less commonly the point of torsion is cranial to the cervix. Cervix is palpable and foetus is not palpable. If less than 90° pre cervical torsion easily foetus is palpable.

Post and Pre cervical uterine torsion

Rarely it can be noticed, partially post cervical with pre cervical uterine torsion (Personal observation).

a) Per rectal examination:

- **In Clockwise or Right-side torsion-** The ligament and middle uterine artery on the right side is stretched and pulled vertically downward under the uterus, whereas the ligament on the left side is stretched and pulled tightly across the top of the uterine body.
- **In Counter clockwise or Left side torsion-** It is contrary to the right-side torsion.

b) Per vaginal examination:

Abrupt stenosis of the vagina with the vaginal wall spirally twisted and external Os of the cervix not palpable depending on the degree of torsion (45°, 90°,180°, 270°, 360°, and rarely more than 360°).

Patho-Physiological Alteration Following Uterine Torsion

1) Patho-physiological Alteration following uterine torsion includes, *altered uterine blood flow, loss*

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of viscoelastic (Ripening) properties of cervix.

2) *Altered haemato- biochemical parameters*- a) Increased or decreased levels of RBC, Hb, PCV and TLC. b) Increased levels of body enzymes likes, AST, ALT, GLDH, CK and GGT. c) Decreased levels of serum Total protein, Albumin. d) Increased level of serum Glucose levels. e) Decreased levels of anti-oxidant enzymes- SOD, GPx, GR, GST and GSH

Treatment Approach

1) **Simple rotation of dam**

Principle include, rapidly rotating body of the animal thereby overtakes the more slowly rotating inert gravid uterus.

2) **Schaffer's method (Modified Rolling Technique)**

Place the plank (9–12 feet length and 8–12 inches wide) on the animal's abdomen with the lower end of the plank on the ground. An assistant stands on the plank and the animal is slowly rolled in the same direction as the torsion by pulling on the ropes around the front and hind feet.

3) **Sharma modified Schaffer's method (SMS)**

Modifications were made in ordinary Schaffer's method (Modified rolling technique) and the method is termed as Sharma's modified Schaffer's method. The modifications made were: 1) Alteration in the dimensional structure of plank (length: 11.9 feet, width: 9 inch and thickness: 2 inch) to suite the buffaloes. 2) While rolling, plank is anchored by *1–2 medium weight assistants* who stand still upon the lower end of plank and *another assistant moves on the plank.* 3) An *additional assistant* modulates the pressure on the plank by pressing the upper end of plank. 4) Buffalo is rolled *quickly*.

4) **Per vaginal rotation of fetus**

This technique practiced when less than 90° torsion with easy holding of fetus per vaginum.

5) **Termination of pregnancy**

Medical termination of pregnancy may be attempted, it will mimic the first stage of labour with prostaglandin expecting spontaneous correction due to uterine contractions and foetal movements. Not validated in all cases. Moreover, it may aggravate the degree torsion in some cases.

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6) Cesarean section

Irreducible uterine torsion cases directly put for Cesarean section.

Post-Detorsion Therapy

- *Massive fluid therapy*- DNS, RL, Multiple Electrolytes, Colloids (Hetastarch).
- *Broad spectrum antibiotics*- Streptopenicillin 5.0 gm, Continued for four more days.
- *Spasmolytic / Analgesics*- Flunixin Meglumine 1.1mg/kg. body wt for 3 days.
- *Calcium supplements*- Mifex-350 to 400 ml slow i/v on the day of detorsion. Ostovet forte 100 ml p/o daily for 10 days.
- *Liver tonics and iron tonics*- Liv-52, Sharkoferrol.
- *Anti-oxidant therapy* with Ascorbic acid, Selenium & Vit-E- 10 ml at weekly twice for three weeks.

Poor Prognosis Indicators

Increased Levels: BUN, Creatinine, and Cortisol. Decreased levels- Magnesium.

Uterine necrosis indicators- Increased levels of blood Lactate.

Extend of damage to the tissues and organs- Decreased levels of Anti-oxidant enzymes.

Conclusion

Cervical dilation failure is gives challenging after detorsion of uterus. That can be managed by cervical massage with *Sodium Carboxy Methyl Cellulose (SCMC)* and administration of *10-15 ml of Epidosin* (Valethamide bromide) followed by *prostaglandin derivatives* (PGE_2 and PGF_2 alpha).

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