

Face2Vet

A Clinical Update

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Bovine Genital Prolapse – Causes, Correction and Care

C³ of Prolapse

Dear Vets,

Bovine genital prolapse is primarily driven by a combination of hormonal imbalance, mechanical stress and metabolic disturbances. Elevated oestrogen levels and reduced progesterone during late gestation lead to relaxation of pelvic ligaments, while hypocalcaemia reduces smooth muscle tone, predisposing animals to prolapse. Increased intra-abdominal pressure due to advanced pregnancy, ruminal distension or dystocia further aggravates the condition.

Once prolapse occurs, venous obstruction leads to oedema, enlargement of prolapsed mass and worsening of condition due to continuous straining. Early intervention focusing on stabilisation, reduction of oedema, proper repositioning and effective retention is essential to prevent complications such as necrosis, infection and recurrence.

A systematic clinical approach combined with appropriate supportive therapy and aftercare significantly improves prognosis, ensuring better recovery, fertility and overall productivity in dairy animals.

This issue of Face2Vet focuses on bovine genital prolapse causes, corrections and care. We invite you to review this issue and share your valuable feedback/thoughts by scanning the below QR code or reaching us via email at face2vet@intaspharma.com.

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Introduction

Prolapse is defined as the eversion and protrusion of an organ from its normal anatomical position, most commonly affecting the reproductive tract in dairy animals. It is commonly encountered in high-producing dairy animals due to metabolic stress, hormonal imbalance and increased intra-abdominal pressure. The main types include vaginal, cervical and uterine prolapse. These conditions are clinically significant as they adversely affect animal health, milk production and fertility.

Vaginal and cervical prolapse typically occur during the last trimester of pregnancy due to hormonal changes and increased intra-abdominal pressure. Uterine prolapse, in contrast, occurs shortly after parturition, usually within a few hours and constitutes a true obstetrical emergency requiring immediate intervention. Although these conditions may appear similar, their etiology, severity and management differ significantly. Delayed or improper treatment may result in infection, necrosis, hemorrhage, shock and even death.

Etiology and Predisposing factors

Hormonal factors

↑ oestrogen levels, ↓ progesterone and hypocalcaemia during late gestation lead to relaxation of pelvic ligaments and soft tissues, reducing structural support.

Mechanical factors

↑ intra-abdominal pressure due to advanced pregnancy, twin gestation, ruminal distension or excessive abdominal fat predisposes animals to prolapse.

Neuromuscular factors

Hypocalcaemia reduces smooth muscle contractility, leading to uterine and vaginal atony, which significantly increases the risk of prolapse.

Nutritional and Managerial factors

Poor body condition, lack of exercise and over-conditioning contribute to weakening of pelvic musculature.

Obstetrical factors

Prolonged dystocia, excessive foetal traction, foetal oversize and retained foetal membranes induce excessive straining and predispose to prolapse.

Genetic predisposition

Certain animals exhibit hereditary susceptibility and recurrence is common in subsequent pregnancies.

Pathophysiology

It involves an interplay between hormonal relaxation of pelvic ligaments, neuromuscular weakness and increased intra-abdominal pressure. In advanced pregnancy (around 8 months and above), prolapse begins due to two main changes. Increased oestrogen levels causing relaxation of pelvic ligaments, while low calcium levels reduce the tone of muscles in genital tract. Together, these changes weaken the support of genital organs. As a result, the vaginal tissue starts to protrude, leading to first-degree prolapse. Once exposed, the prolapsed tissue comes in contact with environment, causing irritation and drying. This irritation stimulates straining reflex, which increases abdominal pressure and worsens the condition (Fig. 1). Continuous straining leads to progression of prolapse into second and third degrees. Vascular compromise plays a central role once prolapse occurs. Compression of venous return leads to venous stasis, causing rapid development of oedema. Oedema increases the size and weight of prolapsed organ, further worsening condition and complicates repositioning.

Classification and Degrees of Prolapse

Prolapse of bovine genital organs is classified based on anatomical involvement and timing into vaginal, cervico-vaginal and uterine prolapse. This classification is critical for determining prognosis and management.

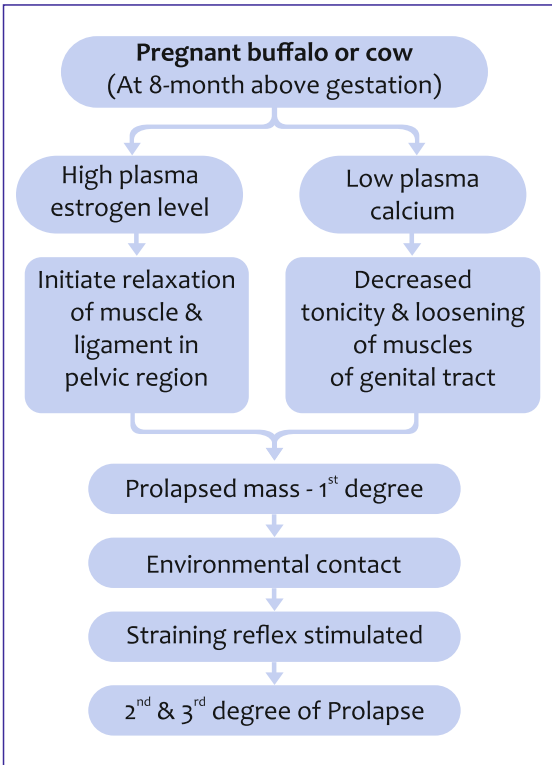
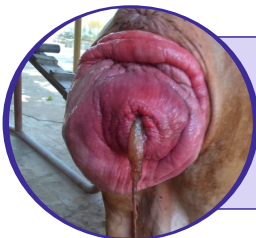


Fig. 1: Pathophysiology of Prolapse

Vaginal Prolapse (Pre-partum)

Initially intermittent (in recumbency), it may become persistent with straining. Though not immediately life-threatening, it predisposes to contamination, mucosal damage and recurrence.



Cervico-Vaginal Prolapse (CVP)

An advanced stage of vaginal prolapse involving the cervix. Progressive tissue relaxation and tenesmus lead to increased protrusion, oedema and contamination. Requires prompt intervention to prevent irreversible damage.

Uterine Prolapse (Post-partum Emergency)

Occurs within 6–24 hours after parturition due to uterine atony, hypocalcaemia, dystocia or excessive traction. Characterised by complete uterine eversion with pendulous mass and visible cotyledons. Rapid oedema, haemorrhage and shock make this a life-threatening condition requiring immediate management.



Degrees of Prolapse

Degrees	Clinical findings	Clinical Significance
1 st Degree (Intermittent)	Small portion of vaginal mucosa protrudes only when animal lies down; disappears on standing; tissue may become dry and slightly traumatized (Fig. 2.a)	Early stage; reversible; monitor and manage
2 nd Degree (Moderate)	Vaginal mucosa continuously protrudes through vulva; no cervical involvement; may become oedematous; urinary bladder may get entrapped (Fig. 2.b)	Requires treatment; may progress rapidly
3 rd Degree (Cervico-Vaginal)	Entire vagina along with cervix protrudes continuously; cervix visible externally; often associated with bladder entrapment and exposure of cervical plug (Fig. 2.c)	Urgent intervention; risk of placentitis and fetal loss
4 th Degree (Advanced)	Long-standing prolapse with severe tissue damage; mucosa becomes necrotic, fibrosed and infected; possible involvement of deeper structures (Fig. 2.d)	Critical; poor prognosis; may need salvage procedures

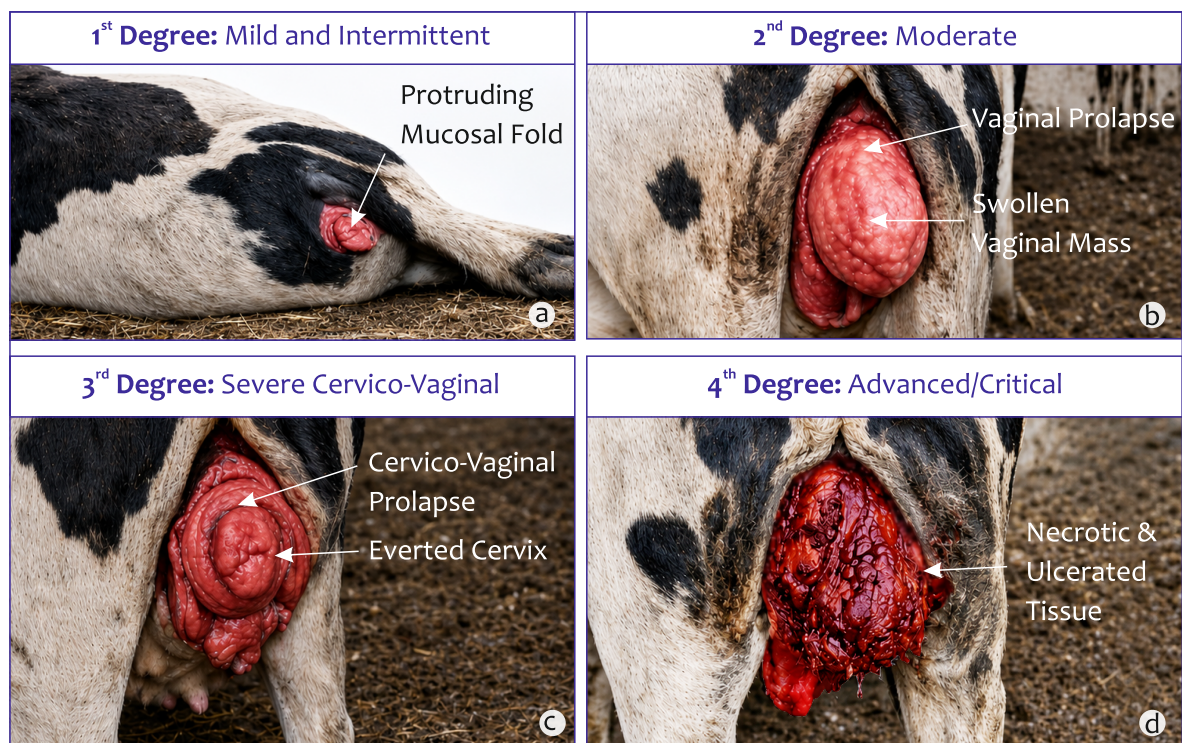


Fig. 2 (a-d): Degrees of Prolapse

Clinical Presentation

General clinical presentation

- Restlessness, frequent lying down and getting up
- Straining (tenesmus), especially in advanced cases
- Reduced feed intake and discomfort
- Tail switching and signs of irritation

Local tissue response

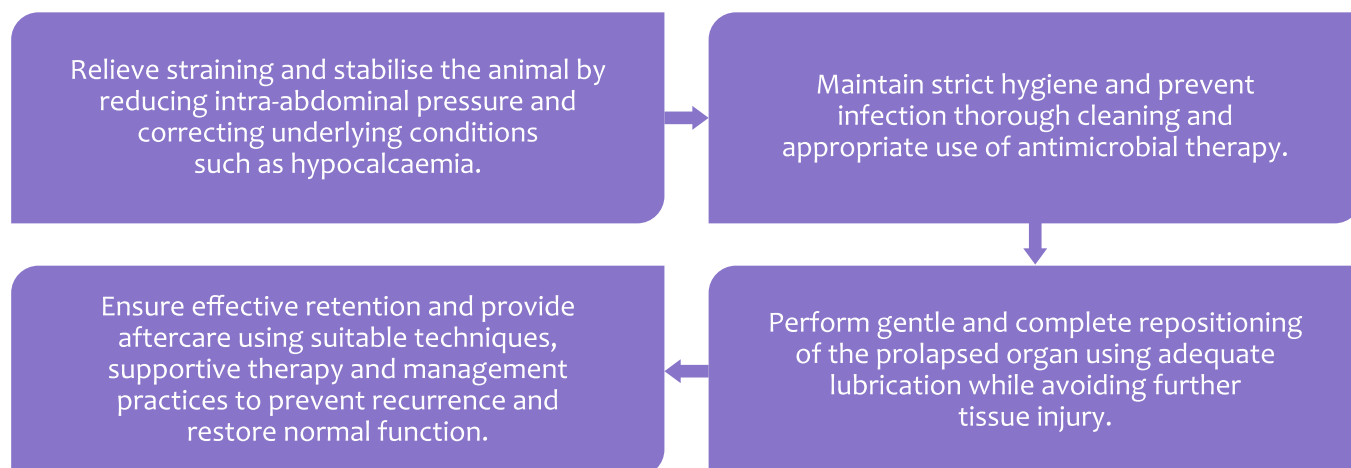
- Exposure leads to drying, contamination and irritation of mucosa
- Progressive oedema due to venous stasis increases size and weight of prolapsed mass
- Increased susceptibility to trauma and secondary infection

Complications if untreated

- Necrosis and fibrosis of exposed tissue
- Ascending infection leading to metritis or placentitis
- Reduced fertility or foetal loss

Principles for Management of Prolapse

Management of Genital prolapse is based on a few key principles aimed at safe correction, prevention of complications and avoidance of recurrence.



Treatment and Management

Management of genital prolapse should follow a systematic, stepwise approach beginning with identification of type of prolapse, followed by condition specific treatment and appropriate aftercare (Fig. 3.)

Step 1: Identification and Classification

Prolapse should be identified as vaginal (pre-partum) or uterine (post-partum) based on history and clinical examination. Severity, duration, degree of oedema, contamination and presence of complications should be assessed.

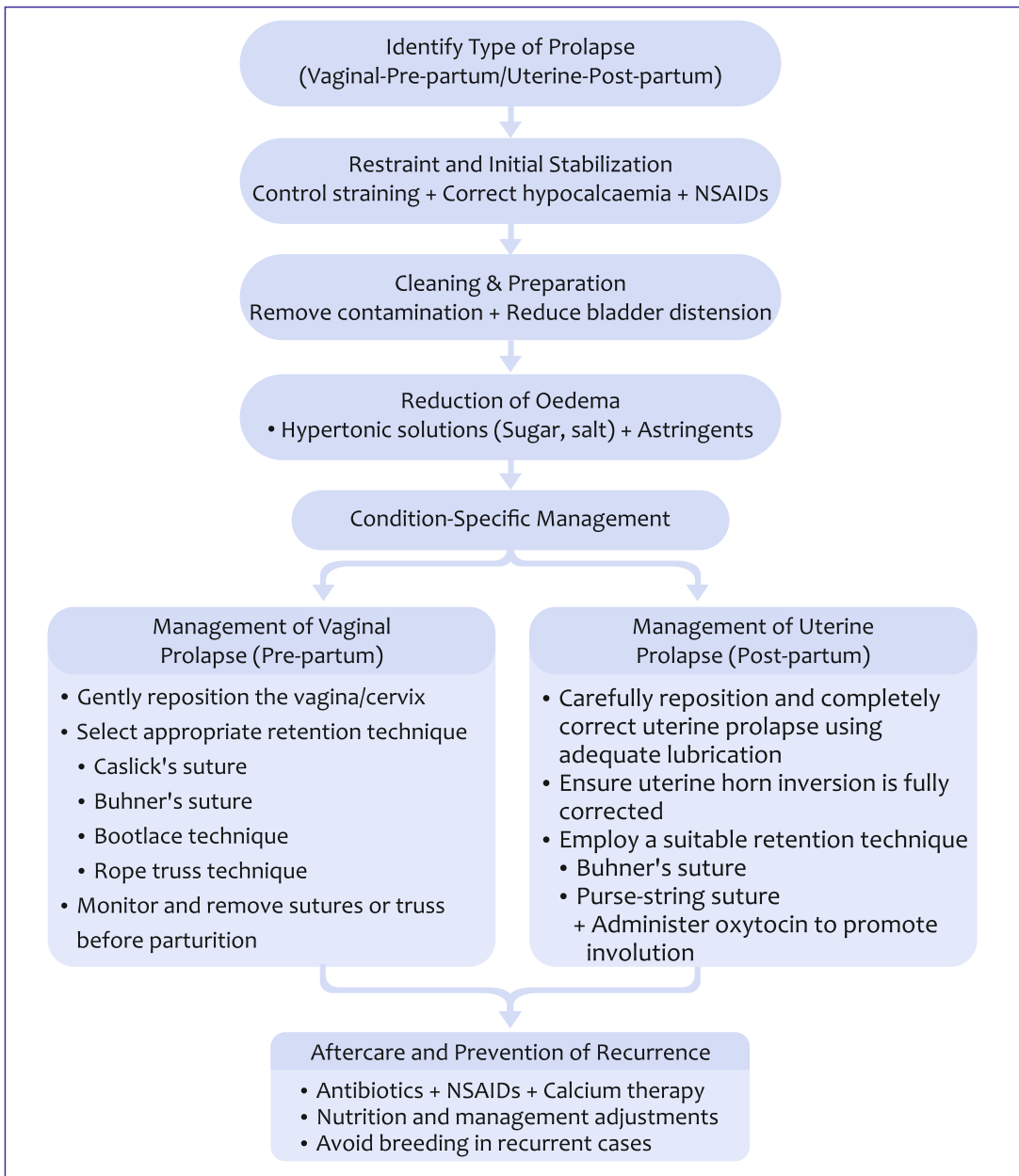


Fig. 3: Management of Genital Prolapse

Step 2: Restraint and Initial Stabilisation

Proper restraint is essential to minimise straining (tenesmus) and facilitate safe handling. Epidural anaesthesia using 2% Lignocaine at sacrococcygeal or intercoccygeal space may be administered to effectively control straining and improve ease of manipulation.

In uterine prolapse, stabilisation is critical:

- Assess for shock and initiate fluid therapy if required.
- Administer IV fluids (normal saline/Ringer's lactate).
- Correction of hypocalcaemia should be considered mandatory in uterine prolapse and cases with uterine atony.
- Administer NSAIDs like Flunixin meglumine (**Unizif**) and Meloxicam (**Melonex**) to control pain and inflammation.
- In vaginal prolapse, stabilisation is generally minimal, but straining should be controlled and the animal positioned with hindquarters slightly elevated.

Step 3: Cleaning and Preparation

- Wash the prolapsed organ thoroughly using mild soap solution and clean water.
- Rinse with antiseptic solution (Potassium Permanganate or Povidone iodine).
- Remove dirt, debris and contaminants carefully.
- Empty urinary bladder by elevation or catheterization.

Step 4: Reduction of Oedema (Size reduction)

- Oedema should be reduced before repositioning to facilitate handling.
- Apply hypertonic sugar or salt solutions or other hygroscopic agents and ice fomentation may be used.
- Topical hyperosmotic preparations such as **POP-X Spray** will assist in reducing oedema and improving tissue tone.

POP-X Spray contain anti-inflammatory herbal components, including:

- o *Mimosa pudica* – known for its astringent properties
- o *Symplocos racemosa* – exhibits anti-inflammatory and styptic effects
- o *Trichodesma indicum* – supports anti-inflammatory action
- o Alum – a potent astringent with strong osmotic activity thus reduces oedema
- o *Curcuma longa* – provides antimicrobial and anti-inflammatory benefits

Step 5: Repositioning and Retention

After adequate preparation and reduction of oedema, prolapsed mass should be gently repositioned.

- Apply adequate lubrication (liquid paraffin / Carboxymethyl cellulose gel / **Lubitas**) to minimise friction and tissue trauma
- Reposition the prolapsed organ using gentle, steady and uniform pressure

General principles

- Begin at the most dependent part of the prolapsed mass and gradually work inward
- Use cupped hands or fists to apply even pressure and avoid focal injury
- Maintain continuous pressure rather than forceful pushing
- Ensure proper anatomical alignment during repositioning

Critical consideration

- Repositioning must be complete and accurate
- Any incomplete correction (especially unnoticed folds or invagination) can lead to recurrence, continued straining or compromised circulation

After complete and correct repositioning of prolapsed organ, the primary objective is to maintain it in its normal anatomical position and prevent recurrence. This is achieved by selecting appropriate retention techniques based on type and severity of prolapse, degree of straining and practical field considerations.

Short-Term Techniques

Caslick's suture is suitable for mild cases and works by partially closing the vulva to prevent protrusion. It is most effective in early or intermittent prolapse, where tissue damage is minimal. However, it often fails under increased intra-abdominal pressure during late gestation, as straining can either tear the suture or lead to prolapse below the suture line (Fig. 4).

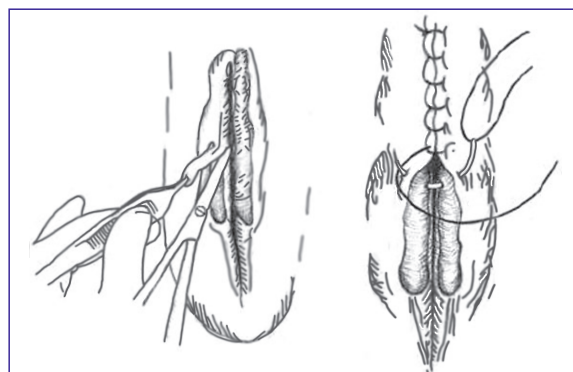


Fig. 4: Caslick's Suture Procedure
(Source: Peter 2014)

Buhner's technique is the most used and reliable method in field practice. It provides strong retention by placing a deep circumferential suture around the vulva. Proper placement is critical. If placed too superficially, the suture will not hold under pressure. Care must be taken to leave sufficient space for urination, as excessive tightening can lead to bladder distension and discomfort (Fig. 5).

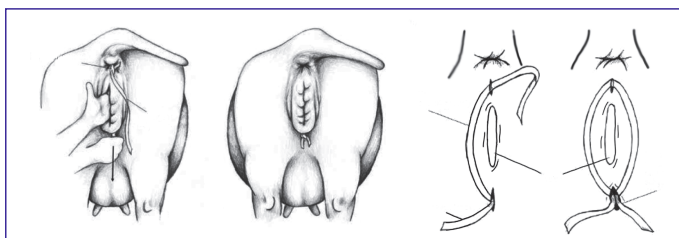


Fig. 5: Buhner Stitch Procedure (Source: Peter 2014)

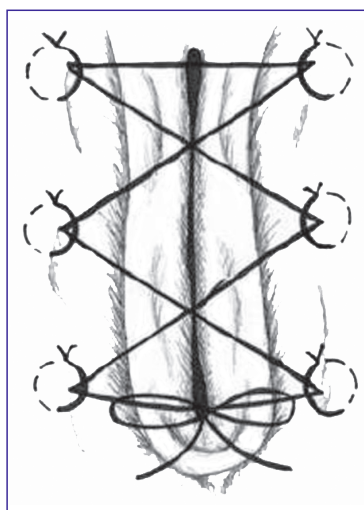


Fig. 6: Bootlace Technique
(Source: Peter 2014)

Advanced Techniques

Procedures such as vaginopexy and cervicopexy are used in chronic or recurrent cases. These techniques aim to create adhesions that permanently fix the vagina or cervix in position, thereby preventing recurrence. While they can be highly effective, they require surgical expertise and controlled conditions and are therefore not commonly performed under routine field situations.

Post-Reposition Care (To Reduce Straining and Recurrence)

After successful repositioning and retention of the prolapse, proper management is essential to prevent recurrence

- **Feeding:** Provide feed in small, frequent quantities. Avoid bulky feeding to reduce abdominal pressure.
- **Water Intake:** Give water in small amounts at intervals instead of allowing large intake at once.
- **Animal Positioning:** Keep the animal on a sloping surface with hindquarters elevated to reduce pressure on the reproductive tract.
- **Avoid Recumbency:** Encourage the animal to remain standing as much as possible.
- **Control of Straining:** If straining persists, epidural anaesthesia may be repeated. Correct underlying causes like hypocalcaemia.
- **General Care:** Keep the animal in a clean, calm environment and avoid unnecessary movement.

Adjunct Oral Supportive Therapy

Adjunct oral supportive therapy can be beneficial in prolapse management, particularly under field conditions where additional systemic support enhances tissue recovery. Herbal formulations, such as **POP-X Bolus**, may be used to support the reduction of mucosal oedema, improve tissue tone and provide systemic benefits by helping reduce inflammation, minimising secondary infection and improving the likelihood of successful retention of prolapsed mass after repositioning. POP-X Bolus contains a combination of herbal astringents and anti-inflammatory agents, including:

- *Quercus infectoria* (majuphal) – astringent; helps reduce mucosal oedema
- *Symplocos racemosa* (lodhra) – astringent; anti-inflammatory and styptic
- *Trichodesma indicum* – anti-inflammatory; supports wound healing
- Alum – potent astringent with significant osmotic activity
- *Curcuma longa* – anti-inflammatory, antimicrobial and supports wound healing
- *Acacia arabica* – astringent; supports mucosal healing and tissue strengthening

Aftercare

Post-treatment care is essential for recovery and prevention of recurrence. Antibiotics like Inj. Ceftiofur (**Xyrofur**) can be used to prevent infection, especially in contaminated cases. NSAIDs like Flunixin meglumine (**Unizif**) and Meloxicam (**Melonex**) reduce inflammation and discomfort. Calcium therapy is continued to maintain uterine tone. Animal should be monitored for urination, appetite and signs of recurrence. Sutures must be removed before parturition to prevent injury.

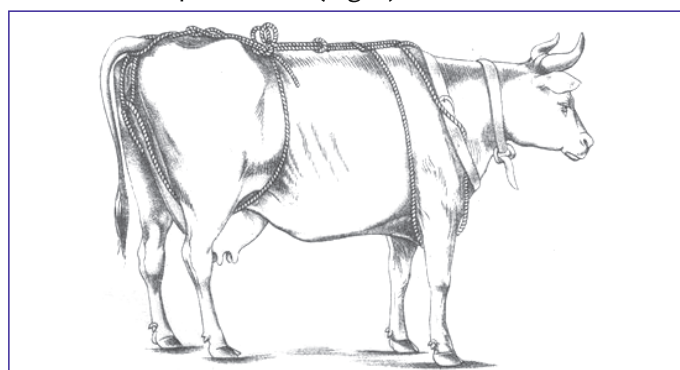


Fig. 7: Renault's Rope Truss technique
(Source: Hill's Bovine Medicine and Surgery)

Clinical Studies of POP-X Bolus and Spray

Introduction

Two field based clinical studies were conducted using a combined regimen comprising POP-X topical spray and POP-X oral bolus in bovines affected with genital prolapse. Studies were carried out under field conditions in Gujarat and Maharashtra.

Objectives

To evaluate the clinical efficacy of a combined regimen comprising POP-X topical spray and POP-X oral bolus in bovines affected with genital prolapse, with emphasis on reduction of oedema, facilitation of repositioning and improvement in overall clinical recovery under field conditions.

Materials and Methods

Animals affected with genital prolapse were restrained and the prolapsed organ was thoroughly cleaned and disinfected following standard aseptic procedures. To reduce oedema and decrease the size of prolapsed mass, POP-X topical spray was applied in adequate quantity over the affected tissue. Manual repositioning was attempted after 20–30 minutes, once sufficient reduction in tissue swelling was achieved. This was followed by application of an appropriate retention technique (rope truss method or Buhner's suture, as required). Post-repositioning, animals were administered POP-X oral bolus therapy (5 boluses twice daily for 3 days) as supportive treatment. Clinical evaluation was performed before and after treatment based on the degree of prolapse (Grade I–IV), size of prolapsed mass (Grade I–III) and presence of associated complications, if any.

Study 1 Clinical Study conducted in Gujarat

Animals

Study was conducted on six non-descript cattle, irrespective of age, affected with uterine prolapse.

Results

The combined therapy resulted in marked clinical improvement, characterised by rapid reduction in oedema and size of prolapsed mass. During the initial stage of treatment, POP-X topical spray acted quickly in reducing tissue swelling, which facilitated easier and smoother manual repositioning. Administration of POP-X oral bolus therapy supported sustained clinical recovery and helped reduce recurrence.

Conclusion

The combined use of POP-X topical spray and oral bolus proved to be an effective supportive therapy in the management of bovine uterine prolapse. The regimen aided in rapid reduction of prolapse size and improvement of tissue condition, thereby enhancing overall clinical recovery.

Study 2 Clinical Study conducted in Maharashtra

Animals

Study was conducted on twelve bovines (cattle and buffaloes), irrespective of breed and age, affected with uterine and vaginal prolapse.

Results

Application of POP-X topical spray resulted in noticeable reduction of oedema and size of prolapsed mass, which eased the repositioning process. Subsequent administration of POP-X oral bolus therapy supported sustained clinical recovery and helped minimise recurrence. All treated animals showed stable recovery without any significant adverse effects.

Conclusion

Findings of the study demonstrate that the combined use of POP-X topical spray and oral bolus therapy provides effective supportive management for both uterine and vaginal prolapse in bovines. The therapy improved tissue handling facilitated successful repositioning and supported smooth recovery.

Bovine genital prolapse is a multifactorial condition requiring prompt recognition, systematic correction and effective aftercare for successful outcomes. Accurate classification, timely stabilisation, reduction of oedema and gentle, complete repositioning are critical for immediate management. Prevention of recurrence depends on proper retention techniques, control of straining and correction of underlying metabolic imbalances, particularly hypocalcaemia. Comprehensive post-treatment care, including hygiene, nutrition and monitoring, plays a vital role in recovery. An integrated approach combining timely intervention, supportive therapy and good management practices ensures improved animal welfare, reproductive performance and productivity.

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