

## **Affections of the Udder**

### **Anatomy**

The udder of the cow and buffalo is composed of four quarters each of which is a separate unit and is considered as an independent compartment.

Thus the affection of one quarter does not necessitate the involvement of the other quarters.

In cow, the teats of the anterior quarters are more longer than the posterior. In buffaloes the anterior teats are shorter than the posterior thus, the anterior teats of the cow and the posterior ones of buffaloes are more subjected to injuries. The udder in ewes and goat is composed of two halves, right and left.

Surgical affections of the udder and teats may be either congenital or acquired as follow:

### **Congenital anomalies:**

#### **1- Absence of the udder:**

Is rare and only met with in cases of hermaphroditism.

#### **2- Supernumerary glands:**

Occurs only in multi - parous animals.

#### **3- Absence of the teat.**

### **1- Sypernumerary teats**

This may occur and can be present anywhere on the udder but are most frequently seen posterior to the last two normally - placed teats. These additional number teats may or may not have adjacent glandular tissue that will become functional. If there is a glandular tissue that has a functional potential, it will atrophy if not milked.

### **Treatment:**

It is better to amputate the accessory teats when that animal is young heifer, before the gland becomes active. It is essential that care must be taken to assure that only the supernumerary teats are removed and not those which are normally-placed. It may be desirable to remove the supernumerary teats for cosmetic reasons or because some may be so close to normally placed teats that they interfere with milking procedures.

### **Procedure:**

Infiltrate the base of the teat by means of 1 % local anesthetic. An elleptical incision is made including the necessary teat. Crush the tissue and the skin is then sutured in an interrupted pattern.

## 2- Contracted sphincter or teat orifice "hard milker":

The condition may be congenital in origin or may be acquired as a result of trauma to the end of the teat. There is a small stream of milk, and the stenotic teat orifice result in prolonged milking time. There may be loss of milk due to incomplete milking.

### Treatment:

Local infiltration anesthesia or instillation of 5 ml of 2 % xylocain or similar local anesthetic into the teat canal will provide anesthesia. The orifice should be cleansed, antiseptic applied, and the orifice enlarged. The enlarging procedure may be accomplished by the inserting of a teat knife, ringed teat slittr or stoll teat bistoury. The opening in the sphincter is maintained at the desired size by inserting a Larson teat tube and leaving it in place for 5 - 7 days. Milking is accomplished by removing the cap of the tube.



**Larson teat tube**

## 3- Enlarged teat orifice "Free Milker" or (Leaker):

This condition is due to a relaxed or a traumatized sphincter. Milk leaks from the teat at times other than milking and result in milk loss.

### Treatmnet:

The condition may be helped by injecting minute amounts of sterile mineral oil or lugol's solution around the orifice to reduces its size to the desired effect. This may have to be done more than once to obtain the optimal size for milk flow. If it is overcorrected and result in stenosis, handle as contracted sphincter or orifice.

#### **4- Occlusion of the teat orifice:**

This is a congenital anomaly characterized by the occlusion of the teat orifice deposit the teat fills with milk at the time of lactation. It may also be acquired as a result of trauma at the teat orifice that result in healing with occlusion.

#### **Treatment:**

A small amount of local anesthetic is injected into the area. Insert a septic hypodermic needle where the opening should be located. Insert the needle into the teat canal until milk flows out; then withdraw the needle and enlarge the opening as described for contracted sphincter.

### **Acquired surgical affections:**

#### **Udder and Teat Wounds**

Lacerations of teats and or udder that do not penetrate sufficiently to allow milk to flow from the wound may be handled as any other laceration, keeping in mind that large amounts of scar tissue or flaps of skin may interfere with milking or have an undesirable cosmetic effect.

Lacerations or trauma in the area of the teat sphincter may lead to stenosis. If there are flaps of skin that protrude, they should be sutured or removed. Portions of nonviable skin should be trimmed back to normal contour of the teat. Sutured wounds may be protected by a wrap of an adhesive elastic bandage as Elastoplast. The insertion of a Larson-type teat tube to facilitate milking is of value to the person milking as well as to the animal because the pain associated with the trauma. **Replacing the cap on the tube after milking will reduce the possibility of mastitis.**

#### **Teat Fistula**

Thee term, teat fistula (milk fistula), refers to an opening in the wall of the teat, connecting the exterior to the pre-existing channel, the teat canal is characterized by persistent outflow of milk.

Such fistula may be congenital or acquired. It is mostly acquired as a result of penetrating wound that extend to the teat canal or cistern and fails to heal completely because of the continuous drainage of milk. Fistula will vary in size from that one which is so tiny, it is difficult to locate to large ones through which the mucous membrane may be seen.

### Symptoms:

The outstanding signs consist of tract and milk coming through it at milking time.

### Treatment:

1. Anesthesia can be obtained by a ring block at the base of the teat or local infiltration anesthesia of the wound edges using 2 % solution of xylocain Hcl.
2. The entire area is prepared for aseptic surgery by washing the field of the operation with soap and water, swap with alcohol. Tincture iodine should never be used because of its marked irritant effect.
3. Apply a suitable tourniquet set at the base of the teat or teat band as much high as possible to secure hemorrhage during the operation.
4. The wound edges should be, if necessary, debrided before suturing. If the fistula is old and the tissue around it have healed, the tract should be excised before suturing.
5. Apply a teat siphon to guard against injuring tissues of the other side and to avoid excessive trimming.
6. The teat fistula is then sutured after dusting the site with an antibiotic powder.

The suture is carried out in two raws including all layers with the exception of the mucosa using non absorbable suturing material.

A vertical mattress or similar stitch is used to effect the apposition of the edges deep in the tissue and superficially. The apposition must be complete and firmly held in place or milk seepage will cause the fistula to recur.

7. Elastic adhesive bandaged is warpped around the teat to rduce milk pressure on the sutures and by virtue, to protect the wound.
8. The tourniquete is then removed.

**The stitches may be removed in 10 - 14 days post operatively.**

**Remove the bandage after 5 - 7 days.**

Siphoning the milk every now and then (2 - 3 days).

Intrammary infusion of terramycine udder ointment to guard against mastitis.

### Haematoma of the Udder

Haematoma of the udder is relatively common in cattle having pendulous udder as a result of contusion and rupture of a subcutaneous blood vessels. The condition is characterized by its sudden onset and fluctuency.

A septic puncturing the swelling may be necessary to confirm diagnosis, but this is not preferable. If the haematoma is subcutaneously, it can be palpated out if

parenchymatus it cannot be detected by visual examination and the diagnosis in such cases depends upon the sudden onset of bloody milk.

### **Treatment:**

Small haematomas of the udder should never be opened immediately. Opening the haematoma is after a week post occurrence.

The blood clot is removed and the cavity is painted with tincture of iodine. The cavity is then packed tightly to guard against further bleeding.

Large haematomas in front of the udder should not be opened till the blood is clotted, usually after 10 days and proceed as before.

### **Lactiferous Calculi (Milk Stones)**

Milk stones which are found in the udder may result from accumulation of lime salts of milk over a point of crystallization.

Sometimes, these calculi are freely movable in the teat canal if their sizes relatively smaller than the diameter of the canal. When being larger in size, they obstruct the lumen of the teat canal.

### **Treatment:**

If the calculi are of small size, they can be removed by manipulation during milking. Larger calculi obstructing the teat canal can be crushed by means of special forceps. In other cases of milk stones, it may be necessary to enlarge the opening at the end of the teat by cutting through the sphincter of the teat canal one or more times.

### **Abscess of the Udder**

Abscesses of the udder may develop beneath the skin as a result of infection of a haematoma. It may occur in the parenchyma of the udder as a result of chronic mastitis especially in goats. It may also occur as a result of supramammary lymphadenitis. Generally, abscess formations most commonly occurs secondary to the traumatic wound.

### **Treatment:**

Following confirmation of diagnosis, the treatment should be done on the general principals for treatment of abscesses. If there are multiple abscesses, mastectomy (partial or total) according the involvement of one quarter or more on the entire udder, is then indicated. If there is involvement of the supramammary lymph node, lymphadenitis, pyelitis, it should be extirpated.

## Amputation of the mammary gland (Mastectomy).

The main indication for amputation of the mammary gland is a severe lifethreatening mastitis, often seen in sheep and goats. Plate shows an acute necrotizing mastitis in a ewe, characterised by a dark blue discoloration of the skin and a severely swollen right mammary gland.

**Surgery.** Amputation of the mammary gland is performed with the

- 1- patient under epidural analgesia (anterior block) or general anaesthesia and in dorsal or dorso-lateral recumbency.
- 2- An elliptical skin incision is made around the discoloured area
- 3- dissection of the glandular tissue along the suspensory ligament medially and the lateral ligament laterally .
- 4- The gland is grasped with a forceps and dissected from the body wall, beginning caudally.
- 5- The major vessels (external pudendal artery and vein, ventral perineal artery and vein, and subcutaneous abdominal vein) are connected by numerous anastomoses, and double ligation is essential.
- 6- The vessels are transected between the ligatures and dissection of the gland is continued cranial.
- 7- The large external pudendal artery, which enters the udder on the cranio-lateral aspect after passing through the inguinal canal, should be respected. After dissection of the mammary gland is complete, subcutis is sutured in a simple continuous pattern using absorbable suture material.
- 8- Sterile gauze or latex drains are placed in the wound, one deeply, the other superficially ,
- 9- The skin is closed with simple interrupted sutures. Systemic antibiotics are administered.