

Teat surgery

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Abstract

Veterinarians are often called to perform teat surgery, whether due to congenital malformations of the teats or due to trauma. Anytime that teat surgery is performed, sterility is extremely important as one does not want to create a case of mastitis. This paper will cover the basics of common teat surgeries including supernumerary teats, slow milkers, teat obstructions, teat spiders, fistulas and repair of teat lacerations.

Key words: bovine, surgery, teat, supernumerary

Résumé

On appelle souvent les vétérinaires à faire une chirurgie du trayon en raison de malformations congénitales des trayons ou suite à un traumatisme. Pour toute chirurgie du trayon, la stérilité est extrêmement importante parce qu'on ne veut pas causer un cas de mammite. Cet article couvrira les rudiments des chirurgies fréquentes du trayon incluant les trayons surnuméraires, les trayons à faible débit, les obstructions de trayon, les lésions du trayon, les fistules et la réparation des lacérations du trayon.

Supernumerary Teats = Extras

The best time to remove supernumerary teats is before breeding (at Brucella Vaccination). At this age no anesthesia, except tailing the heifer up, is required. Clamp onto the tip with a hemostat and pull down so you can visualize the teat udder junction. Cut longitudinally (cranial-caudal), not transversely. Longitudinal cuts leave less of a scar than transverse cuts.

If in lactation, wait until the cow is dry. Do a local block at the base of the teat with about 10 ml lidocaine for anesthesia. Use a hemostat, elastrator band or emasculatome (burdizzo) for hemostasis. Extra teats that are removed on adults may require suturing in a continuous pattern with 3-0 to 5-0 suture to prevent hemorrhage.

Hard/Slow Milker

Hard milkers usually result from teat trauma, such as being stepped on, frostbite, or excessively high vacuum. If the trauma is recent and the teat only needs to be stretched a little, a teat dilator, inserted sterilely may be all that is needed. Be aware, however, that any time there is a dilator in a cow she is more prone to infection. The dilator may need be used

for several days until swelling goes down and you can see if the teat needs to be opened more.

A Lichtie Teat Knife is used for teats that require larger opening. Using sterile prep, insert the knife while applying pressure with thumb. The amount of pressure applied with the thumb will determine how deep the cut is. If needed, turn knife 90° and again pull out with pressure on thumb (2nd cut). Up to 4 cuts can be made in this manner if needed.

Following opening the sphincter, you generally want milk to drip for 1 to 2 minutes after you milk out a stream. After opening, the cow should be milked every 15 minutes for 2 to 3 hours, then once per hour until milking.

When using a Lichtie knife remember that it is always better to stop too soon, and let the teat heal, before you cut further. It is better to have to make a second trip to open the teat more than to deal with a leaky teat.

Teat Obstruction

There are several different types of teat obstructions, but generally they all present with a teat that has milk in it, but the milk does not flow as it should. Producers will complain that either the cow has a blind quarter or that she takes excessively long to milk out. By using ultrasound veterinarians can usually visualize obstruction and thereby plan the best way to eliminate it. Annular rings form at the top of teat between the teat and gland cistern and often consist of a thin membrane. Using a long 6-inch (15 cm) needle inserted sterilely into the teat orifice, the membrane can be punctured and then torn to allow milk to flow into the teat cistern.

Obstructions can also occur at the teat sphincter, due to an incomplete streak canal. Often if you squeeze the teat you can visualize where the orifice should be, as an area where the milk buds up. It can then be opened using sterile technique with a 14-gauge needle. Owners may need to vigorously massage the teat end or use a dilator for several days to keep the opening from scarring back down.

Teat Spider = Pea in the Teat

Teat spiders results from trauma to the mucosal wall of the teat. Trauma leads to a hematoma on the inside of the teat that then coalesces into fibrous ball of tissue with stalk of blood supply. Typical history is that the cow can be hand milked, but not machine milked, as the tissue serves as a ball valve blocking the teat sphincter. While these can be quite large, they can usually be removed through the teat orifice with a Hugg's tumor extractor, mosquito hemostat or alligator forceps. Large masses may require that the ball of tissue

be broken up, so that it will fit through the sphincter. Giving the cow a dose of oxytocin (5 IU) will often allow her to let down milk, making the tissue easier to keep milked down to the end of the teat. This also allows the veterinarian to use the milk to build up some pressure so that the obstruction can be milked out once it has been detached from the wall.

If the obstruction is not moveable, it is probably still in the mural hematoma stage. It is better to wait until it pedunculates off, or do a thelotomy from the side opposite the swelling, excise swollen tissue then close as a laceration. It is important that the mucosa be completely closed in this procedure or granulation tissue will once again obstruct the teat.

Teat Fistula

Teat fistula is a hole in the side of the teat, through which milk leaks. If the fistula is small, it can be closed with silver nitrate sticks, scarifying the sides of the fistula and causing it to heal.

Alternatively, if large, cut an elliptical incision around the fistula into the teat cistern and close as you would a teat laceration.

Teat Laceration

Several things affect the prognosis for teat lacerations. Vertical lacerations have a better prognosis than horizontal lacerations. Lacerations that are not full thickness have a better prognosis than ones that are into the teat cistern. Fresh lacerations (<4 hr) heal better than old ones (>12 hr). Lacerations that just involve the body of the teat heal better than ones that involve the sphincter.

If you have access to a tilt table this is ideal; if not, repair can be done in parlor. Anesthesia usually consists of a ring block with 8 to 10 mL lidocaine, using a 25-gauge needle at the base of the teat. Lidocaine (3 to 5 ml) may also be infused into the teat to block the mucosa. Additionally, depending on

the temperament of the cow and the extent of the laceration, general sedation may be indicated. Xylazine given at 0.05 to 0.1 mg/lb (0.05 to 0.1 mg/0.45 kg) will typically calm the cow but keep her standing. If hemostasis is a problem you can use umbilical tape at the base of the teat as a tourniquet.

Close any laceration that penetrates the teat in a 3-layer closure. Debride the laceration until the fresh edges bleed. Close the mucosa with 4-0 or 5-0 absorbable suture in a simple continuous pattern. This layer needs to be "milk tight". Close the submucosa with a simple continuous pattern, using absorbable 4-0 or 5-0 suture. Close the skin with simple interrupted sutures of 2-0 to 3-0 non-braided, non-absorbable suture. If there is a lot of tension on the incision, you can replace some of the interrupted sutures with vertical mattress sutures to provide support. If the laceration is not full thickness, it can be closed in 2 layers and/or with tissue adhesive.

After the laceration is repaired, it is best to machine-milk the cow as usual, as the machine will help to massage the swelling out of the teat. If the teat is too swollen to machine-milk, you may need to drain the teat with a teat cannula; try to avoid the use of dilators. Medicate the cow with nonsteroidal anti-inflammatories to minimize swelling. The use of systemic or intramammary antibiotics will depend on the cleanliness of the laceration. The cow may need oxytocin at milking to help with milk let-down. The sutures should be removed in 10 to 14 days.

Reference

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