Umbilical masses in calves are a common problem presented to veterinarians. Proper management of these masses first requires a correct diagnosis. The differentials for umbilical masses include hernias and infections/abscesses. Although some hernias can spontaneously resolve, most umbilical problems require surgery.

**Uncomplicated hernias**

|  |
| --- |
|  |

Uncomplicated umbilical hernias usually can be diagnosed on physical examination. They are easily reducible, non-painful and have no evidence of infection present. These hernias can be hereditary but also can be secondary to mild umbilical infections that go unnoticed. Small, uncomplicated hernias can resolve without treatment. Larger hernias usually need some intervention for resolution. Many non-surgical methods exist to keep the contents of the hernia reduced while the ring is trying to close. If the ring doesn't show signs of closing in a few weeks, surgical reduction is indicated.

**Complicated hernias**

Complicated hernias are non-reducible and/or infected and can contain strangulated bowel. These hernias are generally painful, and the calves might show systemic signs of depression and/or colic. Complicated hernias can be difficult to distinguish from infections of the external umbilicus. Ultrasonography can be helpful in distinguishing these conditions. If bowel is strangulated, surgical intervention is indicated immediately. Surgery also can be indicated to remove infected tissue as outlined in the following sections.

**Infection of external umbilical structures**

|  |
| --- |
|  |

Infections of the umbilicus external to the body wall are common. There will be swelling and possibly drainage in the area. Ultrasonography and/or needle aspiration can be helpful in determining if an abscess is present. Careful palpation is necessary to rule out a hernia before abscesses are lanced. These calves might not show systemic signs. If systemic signs are seen, infection of internal structures should be suspected. Lancing, draining and flushing external abscesses along with systemic antimicrobials can work, but many times deep seeded infections and cellulitis make surgery necessary.

**Infection of internal umbilical structures**

Umbilical remnants include one umbilical vein that travels to the liver, the urachus that goes to the bladder and two umbilical arteries that travel alongside the bladder to the aorta. Any or all of these structures can be infected. In most cases, external swelling and possibly drainage is present as previously described. The urachus can be patent, but this condition is not as common in calves as in foals.

A defect in the body wall can be present. These calves are generally systemically ill (intermittent fevers, unthrifty looking, poor growth rates). Deep palpation of the abdomen can reveal enlarged internal umbilical structures.

Ultrasonography also might show enlarged remnants. Even if internal infection cannot be proven, systemically ill calves with external infections usually have it. It is tempting to place these calves on systemic antimicrobials until they feel better, then perform surgery. But the majority of calves will not improve without surgery.

Delaying surgery delays growth rates and increases the chance of the infection spreading to other parts of the body such as the joints, heart valves, lungs, etc. Therefore, surgery is indicated as soon as these infections are diagnosed.

**Umbilical surgery**

Simple hernias can be corrected under heavy sedation and local anesthesia. Simple hernias should be repaired when the calf has matured enough to have a well developed fibrous ring but is still small enough that the rumen does not put undue pressure on the closure. More complicated repairs should be done under general anesthesia. The entire abdomen should be clipped and prepared because the extent of internal involvement and length of incision needed is hard to determine until the abdomen is entered.

Simple hernias are the easiest to correct. An elliptical skin incision is made around the hernia, making sure that enough skin is left to close. After dissecting down to the ring, the abdomen should be entered with a stab incision. Even if the hernia was easily reducible, the abomasum or other parts of the gastrointestinal tract often are herniated and adhered to the inside of the hernial sac, so care should be taken on entering the abdomen. A finger is placed into the stab incision to palpate for herniated bowel or infected umbilical remnants. The skin and lining of the hernial sac are removed from the ring. If the abomasum is adhered, it should be dissected away from the sac. Occasionally the abomasum will have to be incised away from the sac and then closed. The edges of the hernial ring can be roughened by lightly cross-hatching it with a scalpel blade. There are many ways described to close the abdomen, but I prefer a vest-over-pants suture pattern. Although a continuous pattern can be used, I prefer to pre-place interrupted sutures, then tighten them down once all are placed. The edge of the ring can then be over-sewn in a simple continuous pattern. The subcutaneous tissue and skin are then closed routinely.

Complicated hernias and umbilical infections require some caution during surgery. A strangulated bowel might need to be resected if present. With infections, care should be taken when making skin incisions so as not to enter an abscess. And internal structures should be carefully palpated and identified when entering the abdomen to avoid disruption and contamination. If the infection only involves the external structures, the infected tissues can be removed en mass. If the arteries are infected, they should be clamped and transected at a non-infected portion. The artery should be double ligated, and the end of the remaining stump should be carefully over-sewn to avoid hemorrhage. The ends to be removed should be covered with gauze to avoid contaminating the abdomen. If the urachus is involved, it should be removed along with the tip of the bladder and the bladder routinely closed. If the umbilical vein is involved, it can be removed similarly to the arteries.

Occasionally the vein is infected all the way to the liver, and the liver is abscessed. Since the abscess cannot be resected from the liver, the umbilical vein can be marsupialized to the outside skin through a stab incision separate from the original incision. The vein is left open to drain to the outside. Controversy exists as to whether or not the vein and liver abscess should be flushed. The marsupialized vein eventually will close. The abdomen is closed as described previously. Systemic antimicrobials post-surgery are indicated.

*Dr. Navarre is an extension veterinarian with Louisiana State University's Department of Veterinary Science.*

*Source:* [*http://veterinarynews.dvm360.com/how-manage-umbilical-masses-cattle?id=&sk=&date=&%0A%09%09%09&pageID=2*](http://veterinarynews.dvm360.com/how-manage-umbilical-masses-cattle?id=&sk=&date=&%0A%09%09%09&pageID=2)