

VAGINO-CERVICAL PROLAPSE— continued from previous class

Treatment of vagino-cervical prolapse

1. The method of treatment selected for handling prolapsed of the vagina and cervix will vary with the:-
 - i. Species and breed of the animal,
 - ii. Severity of the condition,
 - iii. Stage of pregnancy and
 - iv. Ability of the owner to care for and observe the animal until after parturition.
2. Early prompt treatment often permits the use of simple conservative methods and obviates the necessity of using more heroic techniques.
3. Many methods of handling prolapsed of the vagina are available.
4. These will be discussed in order from the conservative to the more heroic methods used in cattle.
5. The operator should select the most conservative method possible under the circumstances and caution the owner that as pregnancy progresses other methods may need to be used to control the condition.
6. Combination of methods may be used.
 - i. In mild cases in cattle in which only a slight prolapsed occurs when the cow lie down, the cow should be removed from stanchion and placed in a box stall.
 - ii. In slightly more advanced cases one may elevate the rear parts of the cow in a stanchion by means of an inclined platform that raises the rear quarters 2 to 6 inches higher than the front quarters. In a stall this may be done by building up the bedding under the rear quarters or digging out the soil under the fore quarters.

This practice has been frequently followed in many of the mild cases of prolapsed without any untoward effects with the exception that the rear quarters of the dairy cow have been difficult to keep clean.

This simple procedure has prevented many mild cases from becoming more severe and has circumvented the use of trusses or vulvar sutures.

It is most practical in dairy cattle.

- iii. The use of 50 to 100 mgm of progesterone intramuscularly daily or 500 mgm of “repositol progesterone” once every 10 days has been advocated for prolapsed of the vagina in the cow.

The rationale for such therapy is not clear as it would have no value in reducing straining and no value in antagonizing or neutralizing the excess estrogens. If doses are continued through late gestation, parturition could be delayed by progesterone therapy. Therapy should be discontinued after 275 to 280 days of pregnancy.

- iv. Unilateral pudendal neurectomy was advocated for the relief of difficult cases of vaginal prolapsed.

Although a few cases have benefitted from progesterone therapy and pudendal neurectomy in the author's experience these methods are generally unsatisfactory.
- v. Replacement of prolapsed portion:
 1. In replacing the prolapsed bovine vagina and cervix epidural anaesthesia using 5 to 10 cc of 2 per cent procaine or xylocaine solution is very helpful and usually necessary particularly in the more severe cases where tenesmus is present. Blocking the internal pudendal nerves in cows, anaesthetizes the vulva and vestibular structures without affecting any motor nerves which is often observed in epidural anaesthesia.
 2. It is advisable to have the animal standing, preferably with the rear parts elevated to facilitate replacement of the prolapsed organs.
 3. In smaller animals the lifting or even suspending of the rear parts off the ground is easily accomplished and greatly aids replacement.
 4. The prolapsed portions should be washed free of dirt and debris with a mild, non irritating antiseptic solution or physiological saline.
 5. If irritation, infection or straining is present a bland antiseptic oil, such as 1 oz of bismuth formic iodide in a pint of mineral oil, or sulphonamides, or antibiotics in oil or ointment might be of value when applied to the prolapsed vagina before replacing and injected into the vagina once or twice daily for several days or more after replacement.
 6. If difficulty is encountered in replacement of the prolapsed vagina with the distended bladder inside it, the prolapsed portion may be raised dorsally to reduce the sharp kink in the urethra, thus permitting the urine to escape.
 7. In exceptional cases it may be necessary to trocarize the bladder through the prolapsed vagina wall with a large –gauze needle.
 8. Once the vaginal floor and walls are replaced the normal circulation is restored and the edema in the vaginal walls and mucous membrane is readily reduced.
 9. If the vagina is badly infected the animal may have an elevated body temperature. In these cases or those in which the cervix is relaxed and dilated and abortion appears likely, a course of antibiotic or sulphonamide therapy is indicated to control the infection and septicaemia, and if abortion does occur to prevent septic metritis.
- vi. Vulvar Truss treatment for vagino-cervical prolapse:
 1. Vulvar truss is of practical value in controlling prolapse of the vagina in dairy cattle confined in stanchions or box stalls where the owner is able to check and adjust the truss as needed.
 2. These trusses may be made of rope, leather, or metal.
 3. An aluminium rod truss introduced by Payton and held in place with ropes is easily molded to fit the individual cow.
 4. These trusses are held in place by ropes or leather straps securely fastened to a surcingle around the cow's chest and neck.
 5. The truss, as it fits over the vulva, may be padded with towelling or burlap to prevent abrasion or necrosis where it lies against the ischial arch.

6. When the cow arches her back to urinate or calve the truss will loosen.
 7. Cows have been reported to have calved with the truss in place.
 8. Many dairy farmers prefer these simpler, less drastic methods, i through vi, for handling vaginal prolapse.
 9. Most cases are mild and when treated early the results are satisfactory.
 10. The above techniques are not usually satisfactory when tenesmus is severe or vagino-cervical prolapsed is marked.
- vii. Pessaries which are popular in Europe consist of a long narrow wine bottle or similar blunt round object inserted into the vagina after replacement.
1. Pessaries are held in place by a narrow piece of wood or metal placed into the bottle with a ring or loop on the end projecting out of the vulva.
 2. A rope is fastened through this ring similar to ropes that hold a metal or leather truss in place.
 3. Jones described a light metal rod pessary shaped like a hairpin with long lateral arms containing eyes so it could be fastened to the wool of ewes.
 4. Pessaries have not been popular in the United States because there is an impression that an object placed in the vagina tends to cause straining.
- viii. 1. Vulvar sutures that do not pass through vulvar lips are often a satisfactory method of treating vaginal prolapsed for a limited period especially the last 2 to 3 weeks of gestation.
2. The sutures should be located at least 2 to 3 inches lateral to the vulvar lips in the hair line.
 3. This affords a much tougher and thicker skin for the suture, which does not tear out as readily nor cause as much irritation as one in the vulvar lips.
 4. It is desirable to use a type of suture that can be untied or released, so that if a cow appears to be near or in the first stage of parturition the vulvar sutures can be unfastened, so that calving can occur.
 5. If the calving time has been misjudged and prolapsed again results, the prolapsed vagina may be washed and replaced.
 6. If prolapsed does not occur, the sutures can be retied.
 7. Another advantage of the type of suture that can be untied is that if there is some possibility of postpartum prolapsed of the vagina or even the uterus, the sutures can be retied after parturition and left for several more days.
 8. Although some suppuration occurs around these stitches they may be left in place for as long as 6 to 8 weeks.
 9. Vulva-suturing technique employs 4 to 5 small separate loops of doubled $\frac{1}{4}$ - $\frac{3}{8}$ inch umbilical tape on either side of the vulva in the hair line from the level of the anus to about opposite the lower commissure of the vulva. About 2 feet of $1\frac{1}{2}$ inch to 3 inch gauze bandage, doubled, is used to lace up the loops in a manner similar to lacing a shoe.
 10. This gauze may be removed or replaced as desired.
 11. Benesch advocated a metal skewer type of needle with large wooden buttons to hold the vulvar lips together.
 12. Other metallic clamp-like devices have been advocated by other European Veterinarians.

13. Some Veterinarians prefer quill, button or deep horizontal mattress sutures of umbilical tape through the vulvar skin, muscle and mucous membrane.

ix. A buried or hidden purse-string type of suture, Buhner's method for the vulva following replacement of a prolapsed vagina can be used.

1. This technique may be used in chronic postpartum prolapse as well as prepartum prolapsed.
2. Under epidural anaesthesia and with a near-sterile procedure, two one-half inch incisions are made one to two inches above the upper commissure and below the lower commissure of the vulva, respectively.
3. With a long eye-point needle similar to a seton needle, an 18-inch piece of one eighth inch thick nylon cord or heavy vetafil is passed within the tissues from one incision to the other lateral to one vulvar lip.
4. The needle is withdrawn and re-inserted in the opposite direction lateral to the opposite vulvar lip to the lower incision site and again withdrawn.
5. The purse string suture around the vulva is tightened sufficiently to allow 4 fingers in the vulva, and the knot is tied and buried beneath the skin of the upper incision by suturing the skin over the heavy purse-string suture leaving it buried within the vulvar tissue until parturition when it is buried.

X- A vulva closing technique modified from the Caslick operation in mares has been of great assistance in the treatment of chronic prolapse of the vagina 2 months or more before parturition or in postpartum prolapsed.

1. It has also proved very valuable in controlling tenesmus associated with windsucking and a highly inflamed vaginal and vulvar mucous membrane.
2. The drawing of air into and forcing it out of a highly inflamed vagina appears to stimulate and produce violent straining.
3. This operation is performed under epidural anaesthesia.
4. After replacement of the prolapsed structures the caudal $\frac{3}{4}$ inch of mucus membrane of both vulvar lips from and including the superior commissure to about $1\frac{1}{2}$ ' above the ventral commissure is removed with scissors.
5. These raw areas of both vulvar lips are sewn together with interrupted vertical mattress sutures of fine catgut, nylon, silk or stainless steel suture closely spaced.
6. One or two deep horizontal mattress vulvar sutures of umbilical tape are placed through the skin 2 or 3 inches lateral to the vulva and through the vulvar muscles and mucous membrane to prevent the vaginal wall being forced against the fine sutures in the vulvar lips and thus tearing them out if tenesmus occurs.
7. After 10 days all sutures may be removed.
8. The vulvar opening is then so small that the vaginal wall cannot prolapsed and air cannot gain admittance to the vaginal lumen.
9. Just before or at the time of calving it is necessary to slit this adhesion between the vulvar lips to prevent its tearing out.
10. Because of the tendency to repeated prolapse at each gestation period, re-suturing is advised immediately after calving if artificial insemination is employed or after breeding if natural service is used.

XI. Buhner Suture:

1. A deeply buried, circumferential suture placed around the vestibulum to provide support at the point at which the initial eversion of the vaginal wall occurs.
2. THs purse-string suture should be tightened to allow enough of an opening at the ventral commissure for urination (3-4 cm or 2-3 finger widths)
3. ½'' or 1 cm incision below the anus and above the vulva and similar ½'' or 1 cm incision below the ventral commissure.
4. Buhner needle is passed from upper incision from below the skin of vulvar lips to lower incision, umbilical tape is threaded in the eye of Buhner needle and is pulled.
5. Needle is then passed on another side and umbilical tape is likewise threaded, a knot is applied & buried in the skin.

XII. Modified Buhner Suture:

1. Horizontal mattress suture through skin, muscle and mucus membrane and anchored on both side with button.
2. Animals with Buhner sutures should be monitored closely for signs of parturition so sutures may be removed prior to delivery to prevent extensive laceration of the vagina and vulva.

XIII. Permanent fixation of the vagina can be achieved by means of the Johnson button technique, whereby sutures are placed via the vagina, through the sacro-spino-tuberal ligament and gluteal muscles, and then anchored in the vagina and the skin with large, flat discs.

XIII. Another method of fixation is by anchoring the cervix to the pre pubic tendon or iliopsoas muscles. Fixation using the Johnson button technique allows for parturition to proceed unimpeded by the vaginopexy.

Although the cervical os may be edematous and inflamed, cervicovaginal prolapsed seldom interrupts pregnancy and does not specifically predispose to dystocia or postpartum uterine prolapse.