

Purse-string Suture of the Cervix for Prevention of Repeated Uterine Prolapse in the Cow

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Prolapse of the uterus of cows is reported to occur in 0.5 percent of assisted calvings and 0.3 percent of all parturitions (1). A re prolapse following replacement generally does not occur (2), however most experienced practitioners have treated cows which re prolapsed shortly following replacement of the uterus, with a third prolapse occurring rarely. This is a frustrating, exhausting, and expensive problem, and can be life-threatening to the cow. Prevention of re prolapse is difficult, and the technique of suturing the vulva has been described as a "placebo for the farmer" (2).

A surgical technique which appears to be effective for helping to prevent repetition of complete uterine prolapse is purse-string suture of the cervix, a procedure which has not been described in the veterinary literature.

In most cows with a complete prolapse of the uterus, the cervix appears as a collar-like structure ventral to the vulva (Figure 1). While the uterus is prolapsed, a purse-string suture of umbilical tape is placed in the free edge of the cervix, leaving the ends of the suture material long enough to protrude from the vulva following replacement of the uterus (Figure 1).

The uterus is then replaced, and the purse-string suture is tightened, leaving the cervical orifice a few centimeters in diameter. A simple knot is tied to secure the purse-string suture, and the free ends are left extending from the vulva. The suture is removed after 48 hours, when the chance for a re prolapse is remote (3).

Experience with this procedure is limited because of the rarity of re prolapse in cattle. The procedure has been used in eight cows, seven of which had no apparent complications as determined by vaginal and rectal

palpation at the time of suture removal. Pregnancy and calving data for these cattle are not available. There was one failure of this technique in a Hereford crossbred cow which prolapsed a third time despite the sutures. She had developed tenesmus severe enough to pull the sutures from the free edge of the cervix.

This surgical procedure inhibits the uterus from everting through the cervix. Although it should not prevent inversion of a uterine horn cranial to the cervix or prolapse of the vagina, neither of these has occurred. Arthur *et al* have stated that inversion starts with the caudal two-thirds of the uterus (4), and this may make inversion of the tip of a properly replaced uterine horn unlikely. There is superficial pressure necrosis of the cervix at the site of the sutures.

The effect of this technique on fertility is unknown, so it has not been used to correct the first postparturient prolapse.

As with all surgical procedures for rare conditions, it is difficult to evaluate the efficacy of this procedure. A very

large patient population would be needed for a randomized clinical trial comparing purse-string of the cervix to other methods of retaining a uterus. In our practice however, it appears to be a useful technique for the clinician faced with the serious problem of repeated prolapses in a cow.

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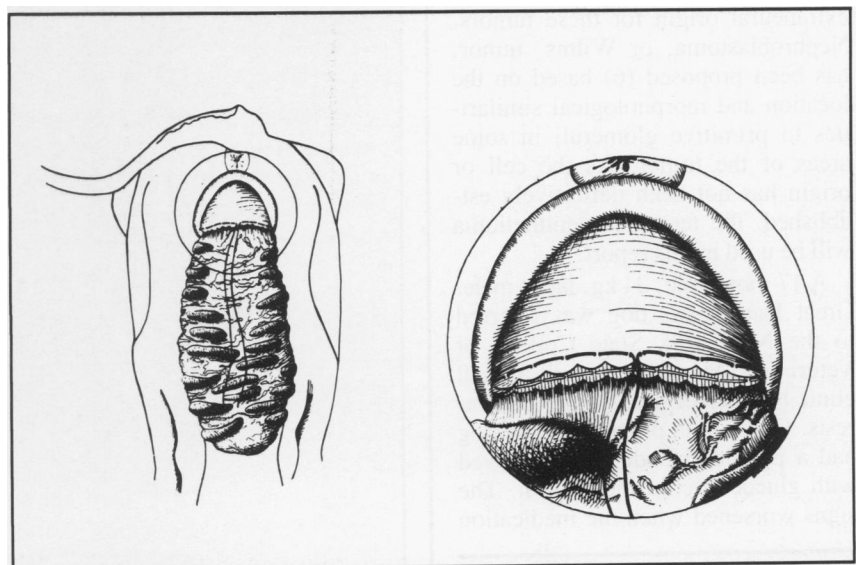


Figure 1. Stylized diagram of the everted bovine uterus showing the location of the purse-string suture placed in the free edge of the everted cervix.