

Using Cervical Cerclage to Manage Cervical Incompetence in Pregnant Mares

BY ALEXANDRA BECKSTETT

Researchers are successfully taking a page from human medicine when it comes to treating one common cause of pregnancy loss in mares: cervical incompetence. Dr. Stefania Bucca, of the Qatar Racing and Equestrian Club in Doha, evaluated the efficacy of applying a cervical cerclage suture to affected mares and presented her results at the 2013 American Association of Equine Practitioners' convention, held Dec. 7-11 in Nashville, Tenn.

Can a human procedure prevent pregnancy loss in mares?

An incompetent cervix does not relax and open properly during estrus or form a tight seal and close properly during diestrus (when the mare is not in heat). Bucca said that during pregnancy, this failure to close exposes

the uterine environment to physical, chemical, or biological challenges and predisposes the mare to developing ascending placentitis (inflammation of the placenta that can cause late-term abortion).

Currently the standard treatment method involves administering an antimicrobial, a non-steroidal anti-inflammatory, and altrenogest (a progesterone hormone product) for a week's duration at monthly intervals until the foal's birth.

"The shortcoming of this treatment is that mares may still have a preterm delivery or fetal loss with histopathological (microscopic) evidence of ascending placentitis despite treatment," Bucca explained.

In women, cervical incompetence can result in preterm birth and late-term abortions, similar to those seen



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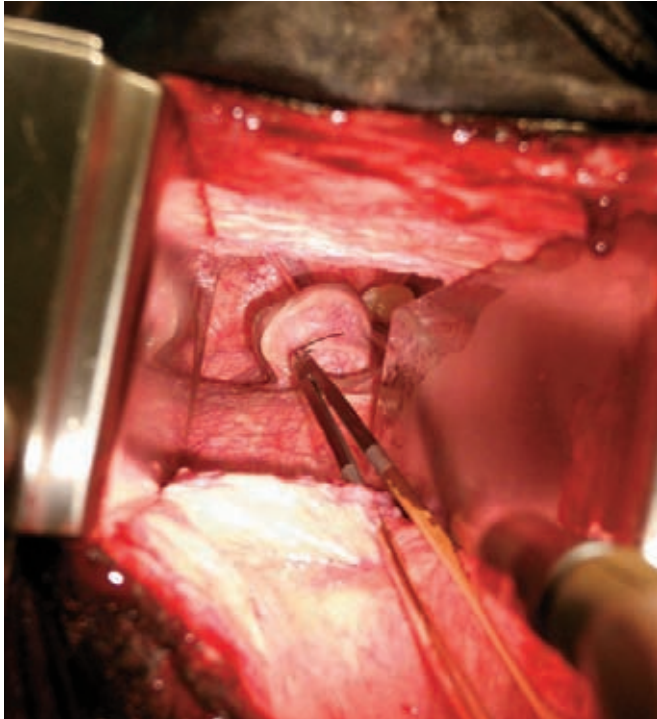
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¹ UC Davis (Nicola Pusterla) & Merck Animal Health. Infectious Upper Respiratory Surveillance Program. Ongoing Research 2008-present.

² Townsend HGG. Onset of protection against live-virus equine influenza challenge following vaccination naïve horses with a modified-live vaccine. Unpublished data.



COURTESY DR. STEFANIA BUCCA

With cervical cerclage, the veterinarian stitches up the cervix early in pregnancy and removes the sutures near the end of gestation

in mares. Human doctors treat this condition by administering progesterone, but they also might perform a cervical cerclage—essentially, stitching up the cervix opening early in pregnancy and removing the sutures near the end of gestation. So Bucca set out to determine how effective and applicable this technique might be for mares.

In her study Bucca performed six cerclage procedures on four pregnant mares (three Thoroughbreds and one Arabian) with known cervical incompetence. Two mares underwent the procedure during two successive pregnancies. She treated each mare with an antimicrobial and altrenogest for five to seven days after the cerclage and monitored cervical parameters via ultrasound every three to four weeks. Bucca removed the sutures on the mares' estimated due date or right before foaling.

"After cervical cerclage, all mares delivered live foals that survived to at least one year of age," she said. "Serial evaluation of the caudal (posterior) reproductive tract did not reveal abnormalities after cerclage sutures were placed. Post-foaling inspection and examination at foal heat were also unremarkable for potential complications."

In conclusion, Bucca suggested performing a cervical cerclage in mares with cervical incompetence that do not respond to altrenogest supplementation.

"Although no complications have been reported in association with cervical cerclage, close supervision of treated mares for signs of impending parturition is of critical importance to prevent cervical damage in the case of untimely delivery with the suture still in place," she said.

This study, "How to manage cervical incompetence by application or a cervical cerclage suture in the pregnant mare," was first published in the 2013 AAEP Proceedings.

Handling Dangerous Hydrops Conditions in Pregnant Mares

BY DR. CHRISTY CORP-MINAMIJI

A broodmare's belly will undoubtedly grow as her fetus matures, but any rapid or unexpected expansion—particularly during the last trimester—is cause for concern. She might be suffering from one of two life-threatening conditions: hydrops allantois or hydrops amnion, characterized by excessive accumulations of allantoic or amniotic fluid in the uterus, respectively.

Fortunately these conditions are extremely uncommon; however, an incorrect diagnosis can quickly equal death for both the mare and her unborn foal. If detected early, veterinarians can manage these cases, so Dr. Nathan Slovis, of Hagyard Equine Medical Institute in Lexington, described how to diagnose and treat them as well as educate owners about what to expect at the 2013 American Association of Equine Practitioners convention, held Dec. 7-11 in Nashville, Tenn.

Veterinarians don't know what causes hydrops conditions. But they do know that the disorders are life-threatening, Slovis said, because if undetected or untreated they can result in abdominal wall hernias, prepubic tendon rupture, and cardiovascular shock.

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“The condition is often detected by the horse owner as a sudden onset (over a period of a few weeks) of abdominal enlargement, ventral edema (fluid accumulation in the abdomen), colic, lethargy, anorexia, tachycardia (rapid heartbeat), and dyspnea (difficulty breathing, due to pressure on the abdomen),” he said. Misdiagnoses include twins and other causes of colic or ventral edema.

To make a definitive diagnosis, Slovis said the veterinarian should perform a transrectal examination of the reproductive tract, which will reveal a large, fluid-filled uterus, and transabdominal ultrasound to detect abnormally abundant (110-230 L of allantoic fluid compared to the normal 8-18 L) fetal fluids.

Upon diagnosis, Slovis said veterinarians should discuss with owners the risks and prognoses for both the mare and fetus and establish whether they want to try to save either the mare or her unborn foal. If the veterinarian diagnoses the hydrops condition early in gestation, he or she might suggest terminating the pregnancy. Those diagnosed later in gestation typically require controlled drainage of the fluid—a one- to three-hour procedure that usually leads to pregnancy termination, Slovis said.

“Mares that present during the last two to four weeks of pregnancy may be managed by conservative therapy (an abdominal wrap for support, weekly veterinary evaluation, and having veterinary staff available for correction of dystocia—a difficult birth—and hypotensive shock) or partial drainage,” he said. “The aim of partial drainage is to maintain pregnancy for as long as possible for additional fetal maturation to occur.”

In the more than 30 hydrops cases Slovis and his Hagyard colleagues have treated over the past decade, he said nearly all of the mares recovered well and were discharged from the clinic. None of the foals, however, survived. Common side effects Slovis said he’s seen post-treatment include retained fetal membranes and dystocia.

Slovis concluded that early detection, management, and client education about hydrops conditions are key to a successful outcome. The drainage procedure is relatively easy and, although ideally performed in a hospital



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Any rapid or unexpected expansion of a broodmare’s belly is cause for concern

setting, can be performed in the field if necessary. Affected mares can be bred back without reoccurrences, but there

is some indication that the condition is hereditary, so Slovis suggested breeding back to a different stallion. **BH**

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