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Common Equine Abortion Causes Reviewed

Abortions are tough emotional and financial losses. While breeders can't prevent all abortions, knowing the risks can help them prepare for this unfortunate event and, in some cases, reduce those risks. French researchers have looked into the various causes of equine abortion to give us a better overview of the challenges facing our pregnant mares.

Overall, noninfectious problems, like umbilical cord issues and twin pregnancies, are the greatest risk, said Claire Laugier, DVM, PhD, of the ANSES Dozulé Laboratory for Equine Diseases, in France, during a presentation at the 2015 French Equine Research Day, held March 12 in Paris. A review of various studies worldwide indicates that, depending on the region, noninfectious problems represent up to 70% of abortions between Days 40 and 300 of gestation.

The most common cause of noninfection-related abortions is excessive umbilical cord torsion, Laugier said. "Obstructions of the blood vessels in the umbilical cord were actually the primary cause of abortion, all categories combined, representing 39.3% of all fetal and neonatal losses—42.6% of losses for which the cause had been determined, in a recent British study," she said.

The second most common noninfectious cause is twin pregnancies, Laugier said. But the prevalence of this cause is dropping, thanks to early detection through ultrasound. If a veterinarian detects a twin pregnancy early enough, he or she can "pinch" and remove one of the embryos to give the other embryo a chance of survival. When both embryos are allowed to develop, one will take up about 70% of one of the two horns and the uterine body, and the other will try to develop in the remaining 30%, she said. But, most of the time, placental resources are insufficient to sustain both fetuses, and they are aborted, on average, at 235 days of gestation, she said.

Other causes of noninfectious abortion include congenital malformations (but only those that are incompatible with life, like central nervous system disorders), hydropsy, premature separation of the placenta, endophyte-infected tall fescue toxicity, and caterpillar ingestion.



The Eastern tent caterpillar is one of the types that can cause abortions in horses.

Photo: University of Kentucky's College of Agriculture, Food, and Environment

Infectious causes—both contagious and noncontagious—represent about 30% to 50% of equine abortions, depending on the region, Laugier said. Reports from Kentucky have shown infections to be responsible for about a third of all abortions, while those from Normandy indicate a rate closer to 50%. The United Kingdom has reported a rate of about 20%.

Contagious infections that cause abortion can be bacterial or viral in origin. Leptospirosis is the only current contagious bacterial infection that can induce abortion, Laugier said. *Salmonella abortus equi* used to be an issue, but no recent reports of abortion due to the bacterial disease have been reported in the European Union. The last two countries to report incidences were Croatia in 1993 and Argentina in 2011.

Equine herpesvirus-1 and equine viral arteritis are the two primary viral threats to pregnant mares; however, abortions due to equine herpesvirus-4 (which typically only affects the horse's respiratory system) are rare, Laugier said.

Among noncontagious infections are bacterial infections that sometimes enter the uterus through the reproductive tract, she said. Such bacterial infections are often caused by Streptococcus or nocardioform bacteria—the latter especially in North America (as yet unreported in Europe).

Abortion-causing noncontagious infections can also come from fungi, namely *Aspergillus* sp., *Mucor* sp., or *Absidia* sp., she said.

Preventive measures include careful management of mares, watching for signs of illness, keeping pregnant mares separated from other animals, using hygienic handling methods especially when manipulating the reproductive tract, and following a strict vaccination protocol designed for pregnant mares, Laugier said. If a mare shows suspicious signs or aborts, keep her isolated from other horses for about a month or until a definite diagnosis reveals that she is not contagious. To prevent noncontagious infections, veterinarians can repair a damaged vulva surgically or perform a Caslick's procedure if necessary. "These procedures make it possible to limit bacterial contamination of the vagina and thereby help prevent bacterial infections from ascending pathways (up the reproductive tract)," Laugier said.

Aside from removing one embryo in the case of twin pregnancies, there isn't much that can be done to prevent abortion from noninfectious causes, she said.