

# New Test Helps Vets Diagnose Placentitis in Pregnant Mares

By [Stacey Oke, DVM, MSc](#)

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Mid- and late-term foal abortions can be both economic and emotional burdens. While not all abortions can be prevented, researchers now believe that veterinarians might be able to determine if some mares are at risk of late-term abortion by conducting a simple blood test.

“The most common cause of mid- to late-term abortions, premature delivery, and neonatal death in the first 24 hours of life involve problems with the placenta,” said Igor F. Canisso, DVM, MSc, Dipl. ACT, ECAR, from the University of Kentucky’s Maxwell H. Gluck Equine Research Center. “Infection of the placenta close to the cervix and vagina (ascending placentitis) is most commonly caused by bacteria such as *Streptococcus equi zooepidemicus*, which enters the vagina, penetrates the cervix and uterus, causing life-threatening infections. Signs of placentitis in mares include vulvar discharge, “softening” of the cervix, and premature udder development and lactation.

“Early diagnosis of placentitis and prompt and appropriate treatment are paramount for survival of the foal, and ultrasound is the most common tool currently used to diagnose placentitis,” added Marco A. Coutinho da Silva, DVM, MS, PhD, Dipl. ACT, from The Ohio State University’s Department of Veterinary Clinical Sciences, College of Veterinary Medicine.

For years, the veterinary community has viewed placentitis as a “focal” disease, but Canisso and Coutinho da Silva recently learned that placentitis causes an increase in acute phase proteins circulating in the bloodstream, which means the inflammation is not restricted to the uterus.

“This made us wonder if measuring those acute phase inflammatory proteins in the blood could be a useful diagnostic and prognostic marker for equine placentitis,” said Coutinho da Silva.

To that end, the research team tested one inflammatory protein’s (called serum amyloid A, or SAA) ability to identify mares with placentitis in late gestation.

In Phase I of their test, the researchers monitored serum SAA levels in 15 mares from Day 280 of gestation until 60 hours postpartum. In Phase II the team induced placentitis in 14 mares between Days 280 and 295 of gestation. Of those, nine were treated and five served as untreated controls. The researchers measured SAA levels at specific time points in all mares. Key findings were:

- In normal pregnancies, blood SAA levels remained low (between 3.2 and 8.2 mg/L) throughout pregnancy. SAA levels increased significantly postpartum, but returned to normal by 60 hours after the foal was born.
- SAA levels increased significantly within about 96 hours of inducing placentitis in all pregnant mares.
- SAA levels did not increase in six of the nine mares with placentitis treated with an antibiotic (trimethoprim-sulfamethoxazole), pentoxifylline, and altrenogest. Abortion occurred more often in the mares that had increased SAA levels compared to mares that either had no increase in SAA or that returned to normal values following treatment.

“These data suggest that SAA is a useful prognostic indicator of ascending placentitis,” concluded Coutinho da Silva.

Canisso added, “It is worth noting that because SAA is not specific for placental diseases, other causes of inflammation should be ruled out.”

The study, “[Serum amyloid A concentration in healthy periparturient mares and mares with ascending placentitis](#),” will appear in an upcoming issue of the *Equine Veterinary Journal*.