Mare Loss from Uterine Artery Rupture

by Neil Williams, DVM, PhD, DACVP

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Your mare has just foaled and everyone is thrilled with the new youngster. But you suddenly notice that the mare is sweating, trembling, has pale membranes, and her heart rate is elevated. She might be facing uterine artery rupture, a potentially deadly complication of pregnancy and foaling. In this article Neil Williams, DVM, PhD, DACVP, of the University of Kentucky's Livestock Disease Diagnostic Center, discusses what is known about rupture of the uterine artery.

Each year the University of Kentucky Livestock Disease Diagnostic Center (LDDC) receives mares that have died as result of sudden rupture of a major blood vessel of the reproductive tract, typically a uterine artery.

Mares that have suffered this type of arterial rupture are often found dead, but may be discovered in shock--exhibiting colic-type pain, sweating, trembling, pale membranes, and elevated heart rate. Many of these mares will subsequently die, but approximately 50% of the mares may survive with treatment.

Cases occur most commonly around the time of foaling, but may be seen several weeks prior to or following foaling. This problem typically occurs in older mares and is believed to result from weakening of the wall of the artery as a result of advanced age and the repeated enlargement and shrinkage of the vessels associated with multiple pregnancies over the lifetime of the mare.

Antemortem diagnosis of uterine vessel rupture can be made on the basis of clinical signs and the association with parturition or pregnancy. Careful rectal palpation or ultrasound examination may reveal the presence of a hematoma in the broad ligament of the uterus and abdominocentesis will reveal free blood.

Reported treatments include a combination of quiet stall rest, sedation, analgesics, oxytocin to stimulate uterine contraction, and correction of shock through fluid or whole blood administration. Surgery is not considered a viable option in most cases due to the mares being poor anesthetic risks and the difficulty of finding and ligating the affected artery.

Mares that survive likely have a smaller arterial tear, with the hemorrhage confined to the broad ligament. In mares that live for a period of time following vessel rupture, but subsequently die, it is believed that the hemorrhage is initially confined to the broad ligament; however, the pressure causes rupture of the broad ligament, allowing unchecked hemorrhage into the abdomen.

Examination of mares that die from uterine artery rupture reveals paleness of the mucosa of the gums, conjunctiva, and vulva. Upon opening of the abdominal cavity, a large volume of blood and clots are encountered. There is hemorrhage in the connective tissue surrounding the uterus, usually with the formation of a hematoma in the broad ligament of the uterus.

Careful dissection of the arteries will reveal the site of rupture. The rupture can occur anywhere along the length of the vessel. The tear typically is 2-3 centimeters in length and oriented parallel to the long axis of the vessel. Evidence of an aneurysm is usually not observed.

The margins of the tear are ragged and clots and fibrin are usually adhered to the vessel. The tear usually involves a uterine artery, but the ovarian and iliac arteries can also be affected.

Uterine vessel rupture can be a devastating occurrence and no prevention is known. Horse owners and managers can help by assisting with dystocia or quickly seeking veterinary help, especially in older mares. Aged mares should be closely monitored around the time of foaling so there can be early recognition of signs indicating internal hemorrhage in order that treatment can be quickly instituted.