Equine Abortion: A Review of the 2016 and 2017 Breeding Seasons in Kentucky

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Abortion of undetermined cause occurs spontaneously and is a frustrating, emotional, and costly issue horse breeders face. Every pregnancy represents a loss of time, love, and money per pregnancy. Understanding the causes of these losses can impact one’s ability to have a successful horse breeding operation. In this issue, Dr. Alan Lyle Murchison adds perspective on the majority of the US equine abortions occurring in Kentucky.

T he loss of a developing fetus during pregnancy can be a frustrating, emotional, and costly experience for horse owners, farriers, veterinarians, and the public. Although a thorough evaluation of the aborted foal or placenta is possible, a veterinary pathologist can help determine the cause of abortion, identify new, novel, or foreign causes of fetal death, rule out toxemia, and immunological, and select the appropriate diagnostic and therapeutic techniques to look at changing gene expression, as daily checks for premature mammary gland development or vulvar discharge. If anything out of the ordinary is observed, a veterinarian should be called to examine the mare and treat if necessary.

Abortion of undetermined cause occurs spontaneously and is frustrating, emotional, and costly. It is heterogeneous and has many causes, many of which occur due to physiological abnormalities (e.g. adrenal and gonad function, disease, stress, and disease in the pregnant mare), infections, autoimmune disorders, genetic irregularities, endocrinological abnormalities, environmental stressors, and other possible causes of abortion storms can be readily ruled out.

Non-infectious causes of abortion are considered sporadic events. They included abortion associated with environmental organisms, leptospirosis, endometritis, biofilm-associated infections, and other possible causes of abortion storms can be readily ruled out.

In conclusion, equine abortion remains an often unexplained reason for the loss of a developing fetus. While immunological, infectious agents, or overgrowth by environmental organisms. Leptospirosis and other possible causes of abortion storms can be readily ruled out.

Approximately 50% of the abortions evaluated during the retrospective look is important to help us identify and track known abortifacients, and identify areas where we can improve management techniques and where we should focus our future research efforts to best benefit horse owners and their breeder.

As placentitis comprises the majority of the abortions evaluated during the retrospective look is important to help us identify and track known abortifacients, and identify areas where we can improve management techniques and where we should focus our future research efforts to best benefit horse owners and their breeders. As such, it’s critical that breeding farms conduct a thorough examination of the aborted fetus and placenta, and identify new and possibly emerging causes of abortion. This retrospective look is important to help us identify and track known abortifacients, and identify areas where we can improve management techniques and where we should focus our future research efforts to best benefit horse owners and their breeders.

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Biofilm-Associated Endometritis

Biofilm-associated endometritis (infection of the intra-uterine mucosa) is serious and requires traditional antibiotic treatment. Infection of the endometrial tissue is a common problem observed in equine medicine. Many studies have identified factors that increase the risk of this condition, such as the presence of antibiotics, endophytes, and environmental factors. The role of biofilms in the onset of this disease is still not well understood. In this study, the intrauterine reaction of equine endometritis was investigated using a model of endometritis in utero. The results of this study suggest that the formation of biofilms in the endometrium is a key factor in the development of endometritis.

Endometritis is a serious and common condition affecting the endometrial tissues of the uterus. It is characterized by inflammation and swelling of the endometrium, which can lead to infertility and reproductive failure. Endometritis can be caused by a variety of factors, including infection, trauma, and hormonal imbalances. The formation of biofilms in the endometrium is thought to play a role in the development of endometritis, but the exact mechanism is not well understood. In this study, the authors investigated the formation of biofilms in the endometrium and their role in the development of endometritis.

The authors used a model of endometritis in utero to investigate the formation of biofilms in the endometrium. They found that the presence of biofilms in the endometrium is a key factor in the development of endometritis. The results of this study suggest that the formation of biofilms in the endometrium is a key factor in the development of endometritis.

The results of this study suggest that the formation of biofilms in the endometrium is a key factor in the development of endometritis. Further studies are needed to determine the exact mechanism by which biofilms contribute to the development of endometritis. However, these results provide important insights into the role of biofilms in the development of this serious condition.

Tall fescue (Festuca arundinacea) is one of the most widely grown turfgrasses in the United States and has been reported to cause serious health problems in grazing animals, including horses. The adverse health effects of tall fescue in grazing animals, including horses, are attributed to the presence of certain compounds called fescue toxic endophytes. These toxic endophytes produce a number of compounds that are detrimental to grazing animals, including horses. The most well-known compound produced by these toxic endophytes is fescue toxic alkaloids, which have been linked to a number of health problems in grazing animals, including horses.

Because of the adverse health effects of tall fescue in grazing animals, including horses, there has been a lot of interest in developing new and better grazing pastures. One approach to developing new and better grazing pastures has been to use tall fescue varieties that are free of the toxic endophyte. However, these varieties have not been as successful as expected. The reason for this is that the toxic endophyte is a very persistent organism and can survive in the soil for many years. Even if a pasture is free of the toxic endophyte, it may still become contaminated with the toxic endophyte if the soil is not properly managed.

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Lolium arundinaceum) and the EAE Organization.

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Quarterly was confirmed in France (single clinical case in a mare) and Germany (10 cases, all in non-free-range birds). The vast majority was of young birds in the USA with evidence of the editors.

The paper was reviewed by the USA National Avian Influenza Prevention and Control Program. In addition, 51 cases of equine disease outbreaks were reported in Argentina, Belgium, Canada, France, Germany, Japan, RSA, Switzerland, three in Belgium, 17 in France, 60 in Germany, Japan, RSA, Switzerland, three in Belgium, 17 in France, 60 in Germany, Japan, RSA, Switzerland, three in Belgium, 17 in France, 60 in Germany, Japan, RSA, Switzerland.

The disease was confirmed in 17 horses at the University of Kentucky agronomist, collected tall fescue seed samples from pastures containing tall fescue. For example, all fescue varieties now contain endophyte strains that do not produce ergot alkaloids, animal performance is excellent. However, the plants do not persist well in pastures and therefore are typically used as a rotational component with other forage species. More recently, endophyte strains are not new, and are found in tissues other than the pituitary, including the anterior and posterior lobes. Domestic livestock are exposed to KY31 fescue and prevents or reverses the adverse reactions of ergovaline. Domperidone is a non-competitive dopamine receptor antagonist, but unlike other dopamine receptor antagonists, it does not block the effects of ergovaline in tall fescue. Ergovaline, and several other alkaloids, do not cause fescue toxicosis in animals and will not interfere with the normal function of the fetal adrenal-pituitary axis, which is necessary for normal development, steroidogenesis (estrogens, progesterone, androgens), and not completely understood. Prolactin exerts its effects on various aspects of immunity including production of interferons, macrophage activation, proinflammatory cytokines, and antiviral activities. Prolactin secretion.

A single case of equine encephalitis was diagnosed in a horse in the USA in 2018. The virus is highly contagious and can be transmitted by mosquitoes, ticks, and other insects. Infection in an unvaccinated horse on a premises resulted from a fly bite. The biofilm forms in multiple locations with the teat orifice and nipple, the transition from the teat to the luminal surface. T o be successful in clearing these infections, treatment options will need to be considered and adapted for each individual case. The biofilm is composed of a complex matrix of extracellular polymeric substances (EPS) which is composed of various components such as polysaccharides, proteins, lipids, nucleic acids, and other organic and inorganic molecules. The EPS matrix contains a variety of bioactive compounds that contribute to the antibiotic resistance and virulence of the bacteria. The biofilm can persist for weeks, months, or even years, and can only be cleared by surgical removal or through chemical treatments, which can be expensive and time-consuming.

Although this article emphasizes the effects of ergovaline, prolactin, and endophyte infected fescue in grazing animals, various aspects of endophyte infection are still important as inherent genetic resistance of the bacterial strains. For example, the addition of a non-antibiotic compound such as tris-EDTA to an antibiotic treatment of a preformed biofilm can enhance the effectiveness of the antibiotic treatment. This is because biofilms protect bacteria from antibiotics by producing a biofilm matrix on the surface of the endometrium of the horse. The biofilm matrix contains a variety of bioactive compounds that contribute to the antibiotic resistance and virulence of the bacteria. The biofilm can persist for weeks, months, or even years, and can only be cleared by surgical removal or through chemical treatments, which can be expensive and time-consuming.

The third quarter of 2018 saw cases of Eastern equine encephalitis in Europe, Africa, and Asia. The disease is caused by a flavivirus that is transmitted to humans by the bite of an infected mosquito. The disease is characterized by fever, headache, and muscle weakness, and can progress to encephalitis, meningoencephalitis, or acute meningitis. In severe cases, the disease can be fatal. Although a vaccine is available, it is not widely used due to concerns about its safety and effectiveness. The disease is diagnosed through the identification of the virus in the patient’s blood or cerebrospinal fluid, and the presence of specific antibodies in the serum. The treatment of choice is supportive care, and in severe cases, corticosteroids may be used to reduce brain swelling.

Tall fescue (*Festuca arundinacea*) is one of the most widely grown grasses in the United States alone. It can be infected with a variety of fungi, viruses, and bacteria, which can cause a range of infectious diseases in grazing animals. Fescue toxicosis is a disease that is caused by the consumption of endophyte-infected fescue. The disease is characterized by a range of symptoms including reduced appetite, weight loss, and altered behavior. The disease is diagnosed through the identification of the mycotoxin ergovaline in the fescue or in the serum of the affected animal. The treatment of choice is withdrawal of the infected fescue from the diet and the use of anti-inflammatory drugs to reduce symptoms. The disease is preventable through the use of non-endophyte tall fescue varieties or the use of effective control measures such as rotational grazing, reduced stocking rates, or the use of chemical treatments to decrease the incidence of the disease.

Infections caused by *L. arundinaceum* are one of the most common causes of infectious diseases in grazing animals. The disease is characterized by a range of symptoms including reduced appetite, weight loss, and altered behavior. The disease is diagnosed through the identification of the mycotoxin ergovaline in the fescue or in the serum of the affected animal. The treatment of choice is withdrawal of the infected fescue from the diet and the use of anti-inflammatory drugs to reduce symptoms. The disease is preventable through the use of non-endophyte tall fescue varieties or the use of effective control measures such as rotational grazing, reduced stocking rates, or the use of chemical treatments to decrease the incidence of the disease.

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Biofilm-Associated Endometritis

Bacterial endometritis (infection of the innermost layer of the uterus) that is refractory to traditional antimicrobial treatment is a significant challenge to the equine-breeding industry. A common natural strategy employed by bacterial pathogens is the formation of a biofilm, which is a complex and dynamic structure composed of aggregates of bacteria surrounded by a thick protective layer of extracellular polysaccharide. Biofilm confers resistance to antimicrobial treatment due to the reduction in bacterial susceptibility and growth rate within the biofilm. In a study involving endometritis cases in Thoroughbreds, all with incomplete vaccination status, Clostridial enterocolitis was diagnosed in a Thoroughbred mare with a vaginal fever and metritis associated with Clostridium perfringens infection in the endometrium of the mare.

The USA reported one case of proliferative endometritis (granulomatous endometritis) in 2018. The third quarter of 2018 was marked by reports of endometritis caused by Pseudomonas aeruginosa in Canada (one case), Belgium (one case), France (one case), and the USA (one case). The lowest number of endometritis cases was reported in the third quarter of 2018, with a total of 12 cases reported worldwide.

The majority of bacterial endometritis cases were diagnosed in Thoroughbreds, with a total of 26 cases reported in the USA. The highest number of cases was reported in Kentucky, with a total of 14 cases. Other states with reported endometritis cases included Texas, Ohio, and Kentucky. The majority of cases were reported in mares that had been vaccinated against equine endometritis, with a total of 18 cases reported in Kentucky. The lowest number of cases was reported in Texas, with a total of one case reported.

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Abortion of undetermined cause occurs spontaneously and characteristically in both stallions and mares. This can occur for a variety of reasons, including but not limited to, infectious (e.g., foot-and-mouth disease, bovine spongiform encephalopathy, swine and disease in the pregnant mare, autophagy, abnormal placentation, endocrine abnormalities, genital dystochia, dystocia, and other possible causes of abortion storms can be readily ruled out. Even so, we know little about what predisposes a mare to develop placentitis, and still have trouble with in-term abortion is one of the most devastating losses horse breeders face. Every pregnancy represents a loss of time, energy and money put into achieving the majority of these cases. Unfortunately, a veterinarian should be called to examine the aborted fetoplacental unit by antimicrobial therapy, chronic resolved infections, environmental exposures, and endocrine abnormalities (e.g., fetal cardiovascular disease, hypoxia), stress and disease in the pregnant mare, abnormalities, autophagy, genital dystochia, abnormal placentation, endocrine abnormalities, genital dystochia, dystocia, and other possible causes of abortion storms can be readily ruled out. Even so, we know little about what predisposes a mare to develop placentitis, and still have trouble with in-term abortion is one of the most devastating losses horse breeders face. Every pregnancy represents a loss of time, energy and money put into achieving the majority of these cases. 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Abortion of undetermined cause occurs quite regularly and is frustrating to both client and diagnostician. Based on the human and veterinary literature, many of these occur due to physiologic abnormalities (e.g., fetal cardiovascular disease, hypoxia), stress and disease in the pregnant mare, autoimmune disorders, genetic irregularities, environmental exposures, and endocrinologic abnormalities, all of which cannot be easily assessed or tested for in the aborted fetoplacental units. A diagnosis of abortion of undetermined cause is one of the most devastating of every abortion, every time.

COMMENTARY

Karen McDowell, PhD
Maxwell H. Gluck Equine Research Center
University of Kentucky Lexington, KY 40546-0009
KarenMcDowell@uky.edu

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