MESSAGE FROM THE GRAYSON-JOCKEY CLUB RESEARCH FOUNDATION

VIRUS ABORTION VACCINE DEVELOPED BY GRAYSON FUNDING

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A SOURCE OF SATISFACTION for the Grayson-Jockey Club Research Foundation is that the vaccine for virus abortion was developed with the assistance of funding from the original Grayson Foundation during the 1970s. Existence of any vaccine against what was once a serious and deadly scourge of man or beast is a welcome and ongoing benefit. There is also an ongoing need for vigilance, however, and in the case of virus abortion in mares, complacency still must be avoided.

For Dr. Luke Fallon of the renowned Hagyard Equine Medical Institute, the development of the vaccine and the history of the malady have personal as well as professional ties. It was Dr. Jack Bryans, Fallon's uncle, who was the mainstay of the University of Kentucky's research team that developed the vaccine. Moreover, Fallon's father (whose sister was Bryan's spouse) was Dr. Ed Fallon, who was of the generation bedeviled by virus abortion as young veterinarians and later grateful for the vaccine for the remainder of their careers. The cooperative efforts between the researchers and farm practitioners were vital in the vaccine becoming a reality.

Fallon's memory of his father's tales about the "old days" includes such cases as one boarding farm suffering abortion in 18 of the 20 mares it kept for a single patron. It is no wonder that the word "outbreak" is not sufficient in expressing the depth of the problem. The common term is "abortion storm." The villain of virus abortion in mares is a specific herpes virus, identified as Equine Herpes Virus 1 (EHV-1). In 2019, EHV-1 is known and feared for its role in outbreaks that have forced quarantines at racetracks and canceled horse shows.

Scientific research might have belled the cat insofar as the abortigenic aspect of EHV-1 is concerned, but the virus still harries the horse world, particularly as it pertains to neurologic disease. Fallon points out that EHV-1 is only one of multiple EHV types that can result in significant disease. In addition to reproductive disease in mares, EHV-4 and EHV-1 viruses can result in respiratory disease, specifically in young horses. A form of reproductive pox caused by EHV-3 can shut down a stallion for brief periods. Research on these has high priority today.

The virus that causes abortion was not banished from existence by the development of the vaccine Zoetis Pneumabort-K (R). Fallon pointed out that many mares still, and always will, harbor the virus, so vaccination year after year is still essential. He said the standard sequence is to vaccinate during the fifth, seventh, and ninth months of any pregnancy.

The impact of the availability of an effective killed-virus vaccination seems virtually impossible to quantify, either in terms of dollars saved, i.e., NOT lost, or in decreased fears of, and anguish of, such a fundamental blow in the life of a breeding farm. The impact of the Mare Reproductive Loss Syndrome year of 2001 is accessible in the personal memories of many more current horsemen/horsewomen than are virus abortion storms and can be a useful frame of reference.

While the mechanism of MRLS abortions was not the same, the rapid sweep of tragic news across the Central Kentucky Thoroughbred community is instructional. What if one were always aware that a similar sequence of devastation was perhaps lurking out there—in this year, on this farm? Welcome to the not-so-distant past.

The sequence of vaccination involves the seemingly perverse notion to "infect with a killer virus in order to prevent death from that same virus." A small amount awakens a strengthened immunity, which fights off that same antagonist. So, the incidence of virus abortions of one year could actually impart some increase in immunity for the next year. This might affect immunity within the herd for as long as five years.

Fallon likened the syndrome to "chickenpox in children," although caused by a different virus. The open sores on one child can "cross-inoculate" other children with which he/she comes into contact.

Conversely, while the above case might involve positive reactions, Fallon cautioned against rotating between vaccinated mares and younger horses, such as yearlings, in the same stalls. Even a vaccinated mare possibly could be caused to abort because of minute environmental issues left by the young horses recently contending with their own developing immunity.

Again, virus abortion has not been conquered, but our current vaccination protocols attenuate this risk. BH