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**Is your pregnant mare a "high risk mare"??**

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Despite improvements in conception rates in horses over the years, the live foal rate in both the thoroughbred and standardbred industries is only around 65%. Furthermore, mares that have lost their pregnancies often have difficulty conceiving in the subsequent breeding season. In the last few years, there has been an increased awareness in the USA and Australia of the incidence of pregnancy loss due to placentitis (inflammation of the placenta) in mares. Much of this awareness stems from the history of mare reproductive loss syndrome, associated with the ingestion of caterpillars, which both countries have experienced. However, there are multiple factors which result in the condition of placentitis that are also relevant to New Zealand, some of which include an infectious component, and all of which ultimately result in one or more of the following: - compromised placental function, abortion, premature birth or the birth of a weak foal. The first sign of placentitis may also present as colic, followed by premature udder development, vaginal discharge and abortion. Pregnancy loss late in gestation is an important source of reproductive wastage in the equine industry and compromised foals may never achieve their athletic potential.

Placentitis is most commonly caused by bacteria from the vagina traversing the cervix and invading the uterus and placenta. The associated inflammation of the placenta leads to prostaglandin synthesis which stimulates uterine contractions and ultimately results in premature delivery of the foal. Mares are considered at risk if they have predisposing anatomical conditions (eg: poor vulval conformation, damaged cervix), have a history of abortion, are exposed to infectious agents or have poor placental function. Examination of the placenta after foaling may provide evidence of the risk factors predisposing to placentitis. (Fig. 1).

Fig 1. Scarred placenta in a mare with a damaged cervix.

Nearly a quarter of all pregnancy loss experienced in mares occurs after 120 days of gestation. During these latter stages of gestation, the placenta is the sole source of progesterone like

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hormones which maintain the pregnancy state and prevent expulsion of the foetus. Poor placental function will compromise the production of these steroids, and in a clinical setting Regumate® is frequently administered when placental compromise is suspected. Indeed, in Kentucky (USA) and Scone (Australia) many mares at high risk of losing their pregnancy are treated with double the dose of Regumate® throughout gestation.

Concurrent antibiotic treatment is often routinely administered prophylactically in mares at high risk of pregnancy loss and also in active cases of placentitis. Prophylactically, the use of antibiotics will minimise contamination and prevent the ascent of bacteria into the reproductive tract. In these cases, effective antibiotics are chosen for their efficacy against the bacteria and also for their ease of administration, and are often given monthly throughout gestation. In cases of acute placentitis, once infection has crossed the placenta, then antibiotic treatment may be intensified to daily treatments throughout the risk period.

Monitoring the pregnancy and placental changes during gestation is useful to pre-empt any detrimental changes that may be occurring and to implement treatment as indicated. Long term Regumate therapy is expensive and blanket treatment may not be the most cost effective approach. Therefore, in many cases the most cost effective approach is to include a combination of treatment and serial monitoring which evaluates blood samples, premature udder development, vaginal discharge, placental development and foetal activity. These factors have been identified as predictive of pregnancy outcome. In addition, placentitis should also be considered as a differential diagnosis for pregnant mares with colic.

Careful evaluation of the mare's placenta after foaling and the IgG levels in foals from affected mares can also provide useful information for the management of the foals from these problem mares. In the case of an abortion, always ask your vet to send the placenta with the foetus to the lab for investigation. Foals from compromised placentae may also be undersized and malnourished at the time of birth (Fig 2). Their potential for compensatory growth will depend of the degree of placental compromise they endured during gestation. Simply increasing our awareness of the incidence of this condition can improve pregnancy outcome by enabling early intervention when required.

Fig. 2. Small foal produced by a compromised placenta.

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It has been shown that close monitoring of high risk pregnancies in your mares will improve the outcome as treatment can be initiated before placentitis gets out of control. Any pregnant mare with clinical signs of premature foaling, colic or a history of losing her pregnancy previously warrants close monitoring.

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