Comparison of Serum amyloid A concentrations in Thoroughbred mares experiencing embryonic loss and in mares maintaining pregnancy

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Serum amyloid A (SAA) is a sensitive marker for acute inflammation and is increased in mares with experimental placentitis and bacterial endometritis. Elevations in SAA have also been reported in mares with early embryonic loss. The objective of this study was to determine SAA concentrations in mares undergoing embryonic loss (< 42 days) compared to herdmates that maintained pregnancy. Serum amyloid A concentrations were determined at ovulation (Day 0) and at Day 15 postovulation in Thoroughbred mares in central Kentucky. Mares (n = 49) with confirmed embryonic loss were matched by age, reproductive status, farm, and veterinarian to mares that maintained pregnancy beyond 42 days (n=61). Serum amyloid A concentration was determined with a previously validated immunoturbidometric assay. Data were analyzed with a Wilcoxon rank sum test. There were no differences (P > 0.05) in SAA concentrations at Day 0 or Day 15 between mares that maintained pregnancy and mares that underwent embryonic loss. Median (interquartile range) concentrations of SAA at Day 0 were 31.9 mg/L (27.6 - 36.5 mg/L) for mares that maintained pregnancy versus 32.0 mg/L (29.8-37.0 mg/L) for mares that underwent embryonic loss. Similarly, median concentrations of SAA at Day 15 were 30.3 mg/L (27.4 - 32.8 mg/L) for mares that maintained pregnancy versus 29.4 mg/L (27.1-33.6 mg/L) for mares that underwent embryonic loss. Elevations in SAA were observed in mares from both groups but did not appear to be associated with embryonic loss. Based on our findings it appears that in this population of mares, pregnancy loss prior to 42 days was not associated with an elevation in SAA levels at the time of ovulation and first pregnancy diagnosis.

Keywords: Equine, mare, serum amyloid A, embryonic loss, endometritis

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Reference