Septic Peritonitis in the Post Partum Mare.

KS Offer, CM Russell, LA Cudmore, NM Collins, JB Carrick
1 Scone Equine Hospital, Scone, NSW Australia 2337
2 Equine Specialist Consulting, Kingdon Street, Scone NSW Australia 2337

Presented at ANZCVS Science Week, Equine Chapter 5-7th July 2018.

Introduction

Septic peritonitis in the post-partum period is a potentially life-threatening condition that requires early diagnosis and aggressive treatment. The inciting cause most frequently involves compromise or rupture of either the urogenital and gastrointestinal tracts, but the presentation of these cases can be frustratingly similar. The aims of this study were: 1) to report the most frequent causes of septic peritonitis and associated outcome in the post-partum mare and 2) to evaluate the influence of various clinical and clinicopathological parameters on primary diagnosis.

Materials and Methods

Records were reviewed for cases of peritonitis in mares presented to Scone Equine Hospital from 2005-2017. Cases were included if they presented 7 or less days post-partum, had a final diagnosis confirmed by exploratory laparotomy or post mortem examination, and either a peritoneal white cell count (WCC) ≥ 10x10⁹ cells/l or degenerate neutrophils or plant material present in a peritoneal fluid sample. Clinical findings and clinicopathological data was analysed using a commercially available statistics program (JMP11, Carey, NC). When evaluating the influence of parameters on primary diagnosis, diagnoses were split into two categories; gastrointestinal (GIT) and uterine disease. Univariable analysis was completed using Wilcoxon/Kruskal-Wallis Tests or Fisher’s exact test as appropriate. Statistical significance was considered at P<0.05.

Results

One hundred and one cases of peritonitis in the postpartum mare were admitted during this period, and 67 horses met the inclusion criteria. Of these, 37 (55%) suffered a uterine rupture, 14 (21%) a GIT rupture, 6 (9%) a mesenteric rent with strangulating small intestine, 3 (4%) a mesocolic tear and avascular necrosis of the small colon, 2 (3%) a uroperitoneum and 5 (7%) ‘other’, which included rectal prolapse, vaginal tears, and necrosis of the GIT and urogenital tracts.

Uterine cases presented significantly longer post foaling (median 2 days IQR 1-3 days) than GIT cases (median 1 day, IQR 1-1 day) (P=0.0026). PCV was significantly higher in the GIT group (median 50.9%, IQR 47-64.9%) compared to the uterine group (median 45.5%, IQR 37-54.1%) (P= 0.0059). Peritoneal lactate (mmol/l) was significantly higher in the uterine (median 9.8, IQR 7.5-16.7) than GIT group (median 3.8, IQR 2.9-4.7) (P=0.0016) and the GIT group had a significantly lower peritoneal RBC (x10¹²/l) than the uterine (GIT median 0.22, IQR 0.14-1.31 vs uterine median 0.71, IQR 0.29-6.7) (P=0.0243). Survival to hospital discharge was more likely in uterine (68%) than GIT group (4%) (P<0.001, OR 49.8). Heart rate on admission, peripheral WCC or band neutrophil count, blood lactate and the presence of toxic changes in neutrophils on haematology or peritoneal WCC was not associated with final diagnosis.

Relevance to clinical equine practice

Uterine tears were the most common cause of septic peritonitis in the post-partum mare in this study. The GIT group were more likely to present earlier and have a higher PCV and peritoneal RBC count and lower peritoneal lactate on admission, but no single clinical or clinicopathological parameter could be used to definitively differentiate the various causes of peritonitis. Exploratory laparotomy therefore remains a useful tool to establish the definitive diagnosis.