عنوان مقاله:

Peritoneal fibrinolytic activity in equines subjected to small colon enterotomy and treated with heparin

محل انتشار:

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خلاصه مقاله:

Study rationale: Heparin is routinely administered postoperatively in abdominal surgery to prevent the formation of adhesions; however, there is no consensus in the literature indicating the effectiveness of such use. Objectives: This study sought to assess peritoneal fibrinolytic activity post-enterotomy of the small colon in equines treated with heparin. Methods: In the present study, 10 adult equines were divided into 2 groups of 5 animals each: the control group (CG) and treated group (TG). Both groups underwent laparotomy and enterotomy of the small colon through the right paralumbar fossa in quadrupedal position. In addition, the animals received combinations of flunixin meglumine, gentamicin and penicillin. The TG also received subcutaneous heparin (150 IU/kg, bwt q. 12 hours, 5 days). The animals were evaluated for the peritoneal concentrations of tissue plasminogen activator (tPA), plasminogen activator inhibitor type 1 (PAI-1) and D-dimer at the following time-points: prior to enterotomy (M0); 12 hours after (M1); 1 day after (M2); 2 days after (M3); 4 days after (M4); 6 days after (M5); 10 days after (M6) and 14 days after enterotomy (M7). Results: A significant difference in tPA level was observed between the groups when all time-points were combined, with a median value of 2.59 IU/mL for the CG and 2.03 IU/mL for the TG. Although no significant difference was observed when the groups were compared at different time-points, smaller tPA and D-dimer values were observed for the TG during heparin treatment. Conclusions: In addition to the finding that the TG showed a lower tPA concentration and reduced D-dimer formation, it was concluded that heparin treatment decreased the formation of fibrin clots and peritoneal fibrinolytic activity.Relevance: Because elevated D-dimer levels are directly related to a poor prognosis and high mortality rate, this study reinforced the relevance of the use of heparin in hypercoagulable states and following abdominal surgery

کلمات کلیدی:

Tissue plasminogen activator , Horse , D-dimer , Fibrinolysis , Heparin plasminogen activator inhibitor