Bleeding Disorders in Canine Accidental Trauma

Hemostatic disorders in humans who have had traumatic accidents are studied in detail, predicting the course of disease and patient outcome. This study aimed to determine whether there was a pattern to hemostatic changes in naturally traumatized dogs. The dogs had been hit by cars within the previous 24 hours and presented in shock to the Small Animal Clinic at the Hannover School of Veterinary Medicine. Most dogs had bone fractures and thoracic and/or abdominal trauma. Blood samples were taken as soon as possible and before treatment to avoid dilution by fluid therapy. Compared with controls, study dogs had significantly decreased platelet counts and activities of all individual coagulation factors, antithrombin, protein C, and plasminogen. Concentrations of soluble fibrin and/or fibrinogen degradation products were above reference values in most cases. Fibrinogen was increased, but a2-plasmin inhibitor activity was the same as in controls. The results of this study indicate that activation of the hemostatic system occurs in most traumatized dogs, suggesting intravascular coagulation and possibly local coagulation.

COMMENTARY: Traumatized dogs often have bleeding disorders that can compromise recovery. This article is one of the first to review hemostatic changes in dogs injured accidentally rather than experimentally. Further studies should be conducted to evaluate the prognostic value of hemostatic changes in dogs.—Patricia Thomblison, DVM, MS