

## REPEATED INFUSION OF LYOPHILIZED CANINE ALBUMIN SAFELY AND EFFECTIVELY INCREASES SERUM ALBUMIN AND COLLOID ONCOTIC PRESSURE IN HEALTHY DOGS

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**Introduction:** Hypoalbuminemia is associated with increased morbidity and mortality in critically ill humans and animals. Albumin solutions may be administered to increase intravascular volume and colloid oncotic pressure in hypoalbuminemic animals. The aims of this study were to evaluate the safety of repeated administration of a novel lyophilized canine-specific albumin (CSA) product and to quantify its effect on serum albumin concentration and colloid oncotic pressure (COP) in healthy dogs.

**Methods:** Six healthy purpose-bred Beagles were administered three separate 1g/kg doses of 16% reconstituted CSA (HemoSolutions, LLC), over 2-hours on days 1, 2, and 14. Dogs were monitored for evidence of transfusion-associated complications during the infusions and at 1, 2, 12, and 24 hours post-infusion. Serum albumin and COP were measured at baseline and at 2, 12, and 24 hours after each infusion. Complete blood count and serum biochemical analysis were evaluated at baseline and on days 3, 15, and 28. Repeated measures ANOVA was used to evaluate collective albumin and COP changes from all infusions.

**Results:** All dogs tolerated the CSA infusion with no evidence of acute hypersensitivity reaction. One dog vomited one hour after completion of the infusion on day 2. This occurred immediately after eating and was thought to be unrelated to the study drug since the dog displayed no other clinical abnormalities. No dogs displayed signs of delayed hypersensitivity reaction during the 28-day study period. Serum biochemistry and hematology profiles remained within normal limits at all time points. COP increased by a mean of 2.1 mm Hg at 2 hours (range 0.7-3.7 mm Hg;  $p=0.0002$ ) and remained significantly higher than baseline at 12 ( $p<0.0001$ ) and 24 hours ( $p=0.0034$ ) post-infusion. Serum albumin increased by a mean of 0.48 g/dL at 2 hours (range 0.2-0.8 g/dL;  $p<0.0001$ ) and remained significantly higher than baseline at 12 ( $p<0.0001$ ) and 24 hours ( $p=0.0002$ ) post-infusion.

**Conclusion:** This dose of CSA was effective at increasing serum albumin and colloid oncotic pressure. Repeated infusions appear safe with no adverse changes to physical examination, hematologic or biochemical parameters.