Response of the VCMVet™ Viscoelastic Testing Monitor to Veterinary Environmental Simulation Challenges

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The purpose of this study is to determine how well the VCMVet™ performs in simulated veterinary hospital environments compared to the recommended testing situation.

Introduction

Traditional viscoelastography is sensitive to vibration, operator variation, and environmental conditions. The VCMVet™ is a patient-side viscoelastic testing monitor that is smaller, requires less training, has less inter-operator variability, and has decreased sensitivity to environmental factors than traditional viscoelastography.

Statistics

- Results were evaluated for normality using the Shapiro Wilk test
- Normally distributed data was compared by a repeated measures ANOVA, followed by a Bonferroni test
- Friedman's test was used to evaluate differences among non-parametric data groups
- A post-hoc Wilcoxon test was performed to determine compare non-parametric groups
- Significance was defined as a p-value < 0.05

Results

- Samples were collected and processed by two investigators over a 2-month period
- Interim analysis of the first six samples revealed that the gurney group yielded bizarre and unpredictable data (e.g. Figure 1D) precluding further testing of this group
- Values for CT, MCF, Li30, and Li45 were not significantly different among groups
- The centrifuge group had significantly higher clotting indices A10 (19.4 +/-2.5), A20 (23. +/- 4.9), & alpha angle (49.2 +/-3.7) than the normal group (18.0 +/-3.1) (21.4 +/-4.7) (46.6 +/-4.1)
- All alpha angle measurements were within reference interval for the centrifuged group
- The workspace group did not differ significantly from the normal group or the centrifuge group

Conclusions

- The VCMVet™ provided reliable data in its recommended environment and in a simulated workspace environment
- Although the distortions in clot indices introduced by operation near a centrifuge are likely of limited clinical significance, it is recommended to run the test in a protected, low vibration environment
- Movement on a gurney during sample testing caused invalid results

Disclosure

Entegron provided consumables and testing units for this study

References