INVESTIGATION OF A NOVEL TREATMENT FOR ELEPHANT ENDOTHELIOTROPIC HERPESVIRUS HEMORRHAGIC DISEASE

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BACKGROUND

- EEEVs the leading cause of death in young, captive Asian elephants (1-15 years old). 7
- Clinical disease involves severe hemorrhagic disease (EEHV HD) and rapid mortality within 24-48 hours of onset of signs. 1
- Effective treatment remains elusive
- Development of freeze-dried platelet product in human and canine medicine serve as a template for potential new treatment in elephants
- New technology offers the ability to provide a necessary blood product while removing many of the limiting factors in transfusion medicine that have previously prohibited their application in zoological species 8

OBJECTIVES

- Evaluate Asian elephant platelet for complete characterization and determination of quality control measures for generated platelet product
- Generate initial lyophilized product for testing and quality control
- Establish laboratory standards for generation of Asian elephant platelet product
- Begin discussion and exploration of clinical trial pursuits in clinically 4 elephants

TECHNOLOGICAL DEVELOPMENT

- Current platelet transfusion options include fresh whole blood, fresh platelets, platelet rich plasma (PRP), cold-stored platelets, and cryopreserved platelets
- Development of lyophilized (freeze-dried) platelet product in human and canine medicine
- Shelf life 24-36 months at room temperature
- Easily reconstituted with sterile water
- Functional platelet recovery >83%

WAY FORWARD

- Complete characterization of Asian elephant platelets scheduled for publication in the beginning of 2018
- Gathering funding and additional resources needed for mass production of platelet product for supply of clinical trial
- Evaluating interest in participation in clinical trial
- Develop clinical trial guidelines including inclusion/exclusion criteria
- Expect product to be highly successful and readily available to zoological and other elephant care facilities

REFERENCES


AKNOWLEDGEMENTS

The authors would like to thank the member zoos and Ringing Bros. Center for Elephant Conservation for their collaboration on this project.

Funding for this project has been generously provided by the International Elephant Foundation, with the laboratory support of Cellphire, Inc.