CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)
Rehet K. Chugh

Project Number
36544

Project Title
Autologus Canine Plasma

Abstract

Objectives/Goals
The concept of Platelet Rich Plasma (PRP) therapy from human medicine is now finding it#s way into veterinary medicine. Not much is known about the effectiveness or exactly how it works, and studies are being conducted at various levels to figure out the effectiveness of the procedure in regards to animals. Questions like the following are all still unanswered:
What is Autologus Canine Plasma? How does it work? Is it an effective procedure? What canine conditions can be treated with ACP?
The study would be my attempt to find answers to such questions.

Methods/Materials
First, I created two questionnaires so that I could collect information about this newer procedure from the veterinarian and the clients.I also shadowed the veterinarian and the staff to a limited extent within permissible limits to learn the procedure and the details involved, the specialized equipment involved. The client questionnaires were filled on their follow up post treatment visits. The questionnaires were filled over the period of 8 months and then analysis was done and was used to arrive at different conclusions.

Results
After the procedure takes place, the follow up visit happens in 2 to 4 weeks depending on the site treated or the extent of injury.During our study, there was a 100% success rate on all of the cases; whether it was used superficially on the cutaneous wounds or acute tendonopathy because probably it induces cell proliferation, improves neovascularization and promotes early recovery.

Conclusions/Discussion
All of this success could be attributed to the fact that platelets release proliferative and morphogenic proteins. These growth factors are the healers in variety of tissue types. They work synergistically to induce proliferation and differentiation of various cell types (stem cells, osteoblasts, epidermal cells). They also stimulate angiogenesis and chemotaxis and enhance or modulate production of collagen and tissue inhibitor of metalloproteinases. Due to these reasons, ACP procedure has shown significant promise with respect to multiple clinical and surgical therapies in our companion animals.

Summary Statement
ACP can be prepared from the patient#s own blood by centrifugation and then injecting it back into the injured site, which either will heal it or will do nothing.

Help Received
Family Pet Hospital helped me conduct the study by giving out the questionnaires to clients and taught me about the procedure. The clients took the time to discuss the results of their pets with me during the follow-up visits.