EVALUATING COMPOUNDED FAMCICLOVIR FOR TREATING CATS FOR FELINE HERPESVIRUS TYPE-1

PROJECT STUDY: Accuracy and precision of compounded famciclovir for treatment of cats affected with feline herpesvirus type-1

Principal Investigators: Louise O’Leary, Lionel Sebbag, Rachel Allbaugh; Iowa State University

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Feline herpesvirus (FHV-1) is the most common infectious organism in cats worldwide. The virus causes ocular, respiratory and dermatological disease that often becomes recurrent or chronic, resulting in prolonged suffering, vision loss, or even death. Famciclovir is an antiviral medication that has revolutionized therapy for infected cats as it is safe and remarkably effective against FHV-1. However, as famciclovir is manufactured in tablets, which can be challenging to administer to cats due to their large size, veterinarians and owners are increasingly reaching for compounded famciclovir, in which the drug is suspended in liquid formulation for ease of administration.

A major question remains – is compounded famciclovir reliable? Unlike their FDA-approved counterparts, compounded drugs seldom undergo any quality control testing. In fact, many compounded formulations are ineffective according to recent veterinary literature. For famciclovir, such erroneous formulations would mean prolonged clinical signs, increased shedding and spread of virus, and promotion of antiviral resistance.

This research group has been able to answer the simple but critical clinical question “is compounded famciclovir reliable?”. To answer this question, analysis of the drug content of a large number of compounded formulations of famciclovir obtained from different compounding pharmacies across the U.S. was performed, comparing the findings of the compounded formulations with those of FDA-approved famciclovir tablets. The drug content analysis was repeated for each sample at different time points to determine if the samples were consistent over time. The samples were also all ordered from each pharmacy on three separate occasions to allow for determination of precision (intra-pharmacy repeatability).

All FDA-approved medications must have drug content that lies within 90-110% of the labelled dose (ie, a 250 mg tablet must have drug content between 225-275 mg) to meet quality standards, and this was confirmed in all three different brands of FDA-approved tablets we tested. These acceptance criteria are also recommended for compounded medications. However, it was found that the compounded famciclovir suspensions tested were inaccurate and rarely met the acceptance standards, deviating by a mean of -18% for the 250 mg/ml suspensions tested and a mean of -52.9% for the 400 mg/ml suspensions tested.
The few compounded samples that did meet the acceptance criteria did not meet the acceptance standards at all repeat orders and so were imprecise. Drug content also fluctuated significantly over the three times points tested, both increasing and decreasing, showing poor consistency. Based on these results, compounded suspensions of famciclovir prepared by compounding pharmacies should not be recommended over the FDA-approved tablets, because the compounded products do not meet USP standards, and are of inferior quality, strength, precision, and accuracy. Treatment of cats infected with feline herpesvirus-1 infection with compounded famciclovir would be subtherapeutic and ineffective.

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