Clinical Efficacy of Canine Parvovirus Monoclonal Antibody for Naturally Occurring Parvovirus in a Shelter Setting

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Background
Canine parvovirus (CPV) is a highly contagious, highly fatal virus that can affect any unvaccinated/under-vaccinated dog. CPV lacks effective targeted therapeutics, and even with intensive supportive care mortality frequently reaches 10–30%. Elanco's CPV monoclonal antibody (MAb), recently FDA approved, demonstrated a high therapeutic efficacy in a lab setting with experimentally infected beagles. However, the clinical efficacy of the CPV MAb against naturally occurring infection is unknown.

Aim(s) of the Work
This study aimed to retrospectively define the clinical efficacy of the CPV MAb for naturally occurring CPV in a shelter setting. We hypothesized that the administration of the CPV MAb would improve clinical outcome, shorten hospitalization times, and reduce the length of infection in dogs with naturally occurring CPV in a shelter.

Methods
Using the electronic medical records, we analyzed these parameters from CPV-infected dogs being treated at a single shelter (2020–2024) who were either given a formulated standard of care (SOC) treatment algorithm (n=49) or SOC plus CPV MAb (n=63).

Results
CPV MAb administration with SOC significantly reduced hospitalization length (median 2 days vs. 4 days; Mann-Whitney, $p=0.0233$) and time to two consecutively negative CPV SNAP tests (Mann-Whitney, $p<0.0001$) compared to SOC alone. Survival rates were comparable in both groups with CPV MAb administration not significantly improving survival compared to SOC (82% vs. 78%; Fisher's exact test, $p=0.6350$). Of the 63 CPV dogs that received CPV MAb, only one adverse event was noted.

Discussion/Conclusions
These findings are the first to demonstrate the clinical efficacy and safety of the CPV MAb against naturally occurring CPV infection. The significant reduction in time CPV Mab-treated puppies spent in isolation has positive and profound financial and behavioral health implications. These results will inform future clinical trials with the CPV MAb, including ones aimed at defining potential synergistic effects of the CPV MAb and fecal microbiota transplant for CPV enteritis.

Disclosures
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