Oral Communication(s)

CLINICAL EVALUATION OF A CANINE-SPECIFIC FECAL OCCULT BLOOD IMMUNOASSAY IN DOGS WITH ACUTE DIARRHEA: PRELIMINARY DATA

Maria Chiara Sabetti[1], Virginia Bettoni[2], Anna Trezzi[2], Andrea Corsini[1], Saverio Paltrinieri[2]

[1]Department of Veterinary Sciences, Università di Parma; [2]Department of Veterinary Medicine and Animal Sciences, Università di Milano, Lodi

Fecal occult blood (FOB) testing has traditionally been limited by poor specificity and dietary interference. Recently, immunochromatographic assays based on monoclonal antibodies against canine hemoglobin have been developed, but their clinical performance in dogs remains unexplored.

The aim of this study was to preliminarily evaluate the clinical applicability of a canine-specific FOB immunoassay in dogs with acute diarrhea and to explore its association with markers of intestinal and systemic inflammation, as well as hematological variables related to erythropoietic response.

Client-owned dogs hospitalized for acute diarrhea between April 2024 and February 2025, without macroscopic blood in the feces, were prospectively enrolled at the University of Parma. A group of healthy controls was included for fecal analysis only. At admission (single timepoint), fecal samples were collected and stored and subsequently analyzed in batch at University of Milan, using a monoclonal antibody-based immunochromatographic assay specific for canine hemoglobin (FASTest® FOBT canine). Fecal calprotectin (fCal), hematological parameters, and biochemical variables were also assessed. Statistical analysis was performed using Mann–Whitney U test for continuous variables and chi-squared test for categorical variables, with significance set at $p < 0.05$.

Included dogs (n=42) were categorized based on FOB result and compared accordingly. FOB positivity (26/42) was observed exclusively in dogs with acute diarrhea, while all healthy controls tested (n=10) were negative. FOB results were not associated with clinical severity. No differences were observed in erythrocyte parameters. However, FOB--positive dogs showed higher reticulocyte counts (median 49,000/mm³ (range 16,200–177,100) vs 26,400/mm³ (range 19,600–56,600); $p = 0.0358$). Markers of inflammation were significantly increased in FOB-positive dogs, including fCal (median 361.5 µg/g (range 24.4–3979.9) vs 46.2 µg/g (range 2.7–827.8); $p = 0.0014$) and C-reactive protein (median 13.35 mg/dL (range 0.01–39.86) vs 5.25 mg/dL (0.88–10.31); $p = 0.0174$). A progressive increase in fCal concentrations was observed according to FOB signal intensity ($p = 0.0036$). No differences were found in serum biochemical parameters.

This preliminary study supports the clinical applicability of a canine-specific fecal occult blood immunoassay in dogs with acute diarrhea. The absence of positive results in healthy controls and the association with inflammatory biomarkers suggest analytical specificity. The increased reticulocyte counts in FOB-positive dogs, in the absence of changes in erythrocyte indices, further support the presence of a mild but relevant erythropoietic response. This assay may provide a rapid, point-of-care tool complementary to established biomarkers. Further studies are warranted to define its diagnostic accuracy and clinical utility.

[1] Heilmann et al. Clinical utility of currently available biomarkers in inflammatory enteropathies of dogs, J Vet Intern Med, 32(5):1495-1508, 2018;

[2] Chappell et al. Rectally obtained fecal samples can be used for fecal occult blood testing in dogs, Am J Vet Res, 27:1-7, 2024.