Feasibility of Measuring Gastrointestinal Transit Time in Healthy Dogs Using ALICAM

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The lack of a simple and widely available test for assessing gastrointestinal motility in dogs can make diagnosing disorders difficult. Ambulatory light-based imaging is an easy to use, novel gastrointestinal imaging technique performed by oral administration of a fully automated capsule-sized camera device (ALICAM) that is propelled by natural peristalsis. The time required for passage of the capsule through the stomach and small intestine can be determined based on correlation of images with an internal clock. The aim of this study was to evaluate the feasibility of using ALICAM to measure gastric transit time (GTT) and small intestinal transit time (STT) in healthy dogs.

The study subjects were 10 clinically healthy dogs between 3 and 8 years of age that weighed 17–32 kg. Dogs were fasted for 16–24 hours before and 8 hours after capsule administration. Images were downloaded and independently reviewed by 3 board-certified internists. Each reviewer determined GTT and STT. The reproducibility of the results was compared between reviewers.

The median (min-max) GTT was 86 (13–218) minutes. The median (min-max) STT was 124 (34–168) minutes. There was agreement among the reviewers with an intra-class correlation coefficient of >0.999 and 0.969 for GTT and STT respectively. The upper limits of the 95% confidence intervals for GTT and STT in healthy dogs were 243 and 179 minutes, respectively.

Ambulatory light-based imaging can be used to assess gastrointestinal transit time in healthy dogs. Further studies are needed to determine its role in dogs with gastrointestinal disease.

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