



## Identifying Factors That Affect Survival of Dogs with Stomach Rotation and Bloat Elizabeth A. Rozanski, DVM, Tufts University

Gastric dilatation-volvulus (GDV), commonly known as bloat with stomach rotation, frequently occurs in deep-chested large and giant breed dogs and has a high mortality rate. Great Danes in particular, but also Saint Bernards, Weimaraners and German Shepherds, are among the most commonly affected breeds. In GDV the twisting of the stomach on its axis prevents food, gas or fluid from escaping and disrupts blood circulation to and from the stomach. Retrospective studies have documented a survival rate of only 70 to 80 percent in dogs. Complications that arise from GDV include abnormal heart rhythms, pneumonia, clotting disorders and stomach and spleen tissue damage.

Funded by Morris Animal Foundation, researchers from Tufts University evaluated nearly 500 dogs with GDV to determine factors that may affect survival and how survival rate can be improved. They found that multiple organ dysfunction (MODS) is common in the patients that do not survive despite aggressive medical and surgical management. Specifically, the development of any organ dysfunction is associated with an increased risk of death, and the risk of death rises as more organs fail. The need for surgical removal of all or part of the spleen and part of the stomach is sometimes necessary because of tissue death after blood supply is compromised; these procedures are associated with MODS. Interestingly, despite the high rate of heart rhythm disturbances, myocardial (heart muscle) injury seems to be uncommon. The study did, however, measure high levels of NT-pro BNP, a cardiac biomarker used in the screening and diagnosis of acute congestive heart failure, and researchers plan to further investigate the significance of this change.

Data obtained during this study showed that clotting disturbances are the most common complication in GDV. Specifically, affected dogs first use up the pre-formed clotting factors and then are not able to clot effectively. This finding has paved the way for researchers to explore earlier use of anti-clotting drugs in more severely affected dogs.

An important finding not previously documented was that one in five dogs with GDV are euthanized before undergoing any treatment. The reasons for this vary and likely include such factors as patient's age, patient's underlying health and cost of care. (D09CA-502)