



Chastain Veterinary Medical Group Pet Health Fact Sheet

Canine Bloat

What is "Bloat" in the dog?

Bloat is general term denoting a condition in which a dog's stomach swells with fluid and gas and then usually goes on to twist on its long axis. It is also known as "Gastric Dilation" or "Gastric Dilatation/Volvulus Syndrome," or more simply, "GDV." Dilatation means that the stomach is distended with gas, but it is still located in the abdomen in its correct place. Volvulus means that the distention is associated with a twisting of the stomach on its longitudinal axis. Left untreated, GDV rapidly leads to shock and death.

Cause

The true cause of GDV remains unclear. It is known that GDV tends to affect mainly large, deep-chested dogs. There is no apparent age or gender predilection, but the incidence of the condition does tend to increase with age. It is most common in dogs 7-10 yr old. A heritable, familial predisposition may exist. Doberman Pinschers, German Shepherds, Great Danes, Gordon Setters, Irish Setters, Saint Bernard's, and Standard Poodles are at greatest risk. An association between GDV and inflammatory bowel disease has been suggested by some, but this remains unproven.

Regardless of the initialing cause, swelling of the stomach with swallowed air, intestinal gas and fluid most likely precedes twisting of the stomach. Distention of the stomach by gas and fluid may be associated with air gulping (aerophagia), diffusion of dissolved gas from the bloodstream, release of carbon dioxide after the reaction of stomach acids with certain substrates, or bacterial fermentation. As the stomach swells and twists, gastric outflow becomes obstructed, resulting in even more swelling and twisting.

Diagnosis

A tentative diagnosis is often possible on the basis of the pet's recent history and a physical examination. Occasionally, affected dogs will have a history of a recent ingestion of a large meal followed by exercise. Owners often report that affected dogs were initially observed to be drooling excessively, belching, and making repeated, mostly unsuccessful attempts to vomit.

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As the condition progresses, abdominal distension becomes increasingly obvious. An enlarged stomach will cause the body wall to protrude prominently, especially on the dog's left side. The swelling will be very firm and increasingly obvious. Affected dogs are usually in some degree of pain or very depressed. They may lie in what is commonly called a "praying position" with the front legs drawn fully forward. Dogs not in shock may appear anxious

Abdominal radiographs (x-rays) of bloated dogs often show classic and unmistakable findings and are useful in finalizing the diagnosis. Blood tests show abnormalities consistent with shock, metabolic acidosis, blood clotting abnormalities, muscle damage, kidney damage and inflammation.

Treatment

Bloat is a life threatening emergency. The condition will not self-correct and there is no effective home treatment. Affected dogs should be examined and treated by a veterinarian immediately. The initial goals of veterinary treatment are to stabilize the patient, prevent or lessen shock, and decompress the stomach.

Initial management for shock should include the administration of IV fluids and perhaps corticosteroids. Antibiotics are often given to combat secondary sepsis. Additional medications may be required.

Metabolic acidosis frequently accompanies GDV. Adequate fluid therapy and gastric decompression generally correct this problem. Electrolyte abnormalities should be addressed if present.

Gastric decompression should be accomplished as soon as possible. Initially, an attempt should be made to pass a well-lubricated stomach tube. If successful, this will permit venting of built up excess stomach gas. Successful passage of a stomach tube does not rule out concurrent gastric volvulus.

Once the stomach tube enters the stomach, gastric gas readily escapes. Excess fluid and ingesta are removed via gravity and suction. After the stomach has been decompressed, it is usually flushed with warm water or saline to remove any remaining debris.

If a stomach tube cannot be readily passed into the stomach, which is often the case with GDV, excess gas may be relieved by inserting a large-bore (16-18 gauge) "over the needle" catheter, into the bloated stomach, directly through the skin. Once excess gas escapes, it may be possible to pass a stomach tube and flush the stomach as previously described.

Definitive treatment of bloat requires surgery. The goals of surgery are to un-twist the stomach, remove the excessive stomach gas and fluid, reposition the stomach, and anchor the stomach to the body wall to prevent future recurrence of GDV. This surgery is inherently risky, because of the affected dog's deteriorating condition.

During surgery the stomach wall must be inspected for areas that may have lost its blood supply. Although this is a very bad prognostic sign, the devitalized area(s) of the stomach should be surgically removed.

The decompressed and de-rotated stomach must be anchored to the inside of abdominal wall - in a procedure called a gastropexy - to prevent recurrence of GDV. This procedure greatly reduces the likelihood of recurrence.

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Abnormalities in the rhythm of the heart (arrhythmias) must also be diagnosed and treated. Severe arrhythmias can become life-threatening at the time of surgery and for several days after surgery. An electrocardiogram (ECG) is the best method for monitoring the heart's rhythm.

According to the scientific literature, the survival rate for dogs with GDV varies between 10-60%. The survival rate for dogs that undergo treatment may be largely determined by the severity of the stomach distention, the degree of shock, how quickly treatment is begun, and the presence of other diseases, especially those involving the heart. Most dogs that do die of GDV (70%) do so within the first 4 days after surgery. Many dogs develop ventricular arrhythmias. Cardiac arrhythmias associated with GDV are often difficult to control

Prevention

One of the most effective means of preventing GDV is prophylactic gastropexy - the surgical attachment of the stomach to the inside of the body wall. Anchoring the stomach to the inside of the body wall does not prevent gastric dilation (swelling with gas and fluid), but it should lessen its severity and it should prevent a swollen stomach from twisting on itself.

Gastropexy has been shown to reduce the risk of recurrence of GDV by about 92% following a first episode and we would expect that it should be at least as effective when performed on dogs at high risk of GDV before they ever experience GDV.

At Chastain Veterinary Medical Group, prophylactic gastropexy can now be performed laparoscopically for dogs at risk of bloating.

Performing the procedure using a laparoscope results in only 2 small incisions! Anesthesia time is short, pain is minimal, and recovery is rapid. Owners of high-risk dog breeds should consider discussing this option with their veterinarian.

Dogs with a tendency to develop GDV – whether or not they have had a gastropexy - should be fed smaller meals more frequently over the course of the day. Excessive exercise should be avoided to decrease the likelihood of volvulus, and consumption of large volumes of water after exercise should be avoided to limit gastric distention.

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