

Below you will find an article on Mesenteric Torsion which is fast becoming one of Our GSD Breed's most deadly Diseases, along with Hemangiosarcoma. Both are Familial and run in Families... No Doubt about the fact, that affected Dogs have a Genetic Predisposition to Developing these Diseases.. Breeders must be extremely vigilant and keep Health Records on All the GSD'S in their Dogs pedigrees and litters, etc.. as far back as possible.. It is most important to keep track of ALL the LITTERMATES, in every litter, and their Health History

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Mesenteric Torsion: The Sudden Killer!

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What is Mesenteric Torsion? It is the twisting of the intestines around the mesenteric axis. The mesentery is the suspension system for the intestines. The many feet of the intestines are suspended by a pretty small mesenteric root that contains the attachment of the mesentery and the major blood vessels providing nutrients to the intestines. Mother Nature designed this amazing network and normally it all functions without problems. However, occasionally, something happens and all goes haywire. This condition is not to be confused with Gastric Bloat/Torsion or Toxic Gut Syndrome, which will be described later. The mortality rate is almost 100% and was once thought to be a rare condition, but evidence has brought to light the fact that this is occurring with ever increasing incidence and has been seen to occur more commonly in German Shepherds than any other breed. The symptoms of this condition are rapid onset of shock, abdominal pain and vomiting. The twisting stops the blood flowing to the intestines, causing tissues to necrotize (in other words: ROT) immediately. This condition causes a dilemma for veterinarians as the symptoms are obtuse and diagnosis is difficult. The dog is usually "down" – in shock, making any surgical options a tough decision. By the time the dog shows any symptoms and you get it to the vet, the torsion has caused the intestines to lose their blood/nutrient supply and also the blood vessels begin to rupture causing internal hemorrhaging. *Any condition that predisposes the dog to abdominal pain and/or intestinal irritant can be a predisposing cause of mesenteric torsion.*

By this medical conclusion, we come to the connection of other diseases or conditions which are highly linked to Mesenteric Torsion. Exocrine Pancreatic Insufficiency (*known as EPI*), Inflammatory Bowel Disease (*known as IBD*), Pancreatic Acinar Atrophy (*known as PAA*) and Small Intestine Bacterial Overgrowth (*known as SIBO*) all show evidence as being predisposing factor to Mesenteric Torsion as well as Gastric Torsion. Another disease/condition called Toxic Gut Syndrome is also linked to Mesenteric Torsion. As you will see descriptions of these conditions listed below, remember that "Any condition that predisposes the dog to abdominal pain and/or intestinal irritant can be a predisposing cause of mesenteric torsion."

Let's start with EPI/PAA. EPI is Enzymatic Pancreatic Insufficiency. Linked with it – actually usually causing it - is Pancreatic Acinar Atrophy (meaning functional tissues of the pancreas atrophy – a wasting or decrease in size of a body organ, tissue, or part owing to disease, injury, or lack of use.) EPI is the inability to properly digest food due to the lack of digestive enzymes which are normally produced by the pancreas. EPI causes malabsorption of food in the intestines. Symptoms include weight loss linked with eating like they are hungry all of the time, poor hair coat, flatulence, and diarrhea. Feces are often yellow-grey in color, often foul smelling and loose/soft. The only diagnosis is by having a blood test for the serum Trypsin-like Immunoreactivity also known simply as the TLI test. A low number indicates the condition. Treatment is supplementing the diet with dried pancreatic

extracts such as Viokase along with supplying an easily digestible dog food. Treatment is for the life of the dog.

What is small intestinal bacterial overgrowth (SIBO)? The small bowel, also known as the small intestine, is the section of the gastrointestinal tract that connects the stomach with the colon. The main purpose of the small intestine is to digest and absorb food into the body. The entire gastrointestinal tract, including the small intestine, normally contains bacteria. The number of bacteria is greatest in the colon and much lower in the small intestine. Also, the types of bacteria within the small intestine are different than the types of bacteria within the colon. Small intestinal bacterial overgrowth (SIBO) refers to a condition in which abnormally large numbers of bacteria (at least 100,000 bacteria per ml of fluid) are present in the small intestine and the types of bacteria in the small intestine resemble more the bacteria of the colon than the small intestine. So what causes SIBO? The gastrointestinal tract is a continuous muscular tube through which digesting food is transported on its way to the colon. The muscles of the stomach and small intestine propel the food from the stomach, through the small intestine, and into the colon. Muscular activity sweeps through the small intestine from the stomach to the colon even without food present. This muscular activity is important for the digestion of food, but it also is important because it sweeps bacteria out of the small intestine and thereby limits the numbers of bacteria in the small intestine. Anything that interferes with the progression of normal muscular activity through the small intestine can result in SIBO. The lack of muscular activity also may allow bacteria to spread backwards from the colon and into the small intestine. *Simply stated, any condition that interferes with muscular activity in the small intestine allows the bacteria to stay longer and multiply in the small intestine can result in SIBO.* These can be an actual foreign obstruction, infection, and also EPI, IBD, etc.

IBD is an Inflammatory Bowel Disease. The exact cause, which is often difficult to pinpoint, is responsible for a chronic stimulus of inflammation. It can be caused by a food allergy, parasites, inflammatory products, from normal bacteria living in the intestine, or it can be (and often is in the German Shepherd) a problem with the Immune System.

Idiopathic inflammatory bowel diseases are defined as a group of disorders characterized by persistent clinical signs of Gastrointestinal (GI) disease, and histological evidence of inflammation of undetermined cause in the lamina propria of small and/or large intestines. The proposed pathophysiology of IBD questions whether the disease is due either to an appropriate or excessive response to a foreign antigen or an inappropriate response to a normal antigen. Possible antigens include bacterial (connection to SIBO...), dietary/digestive (connection to EPI....) and/or parasitic antigens.

IBS: "Irritable Bowel Syndrome" This is a Stress related Diarrhea problem...Treatment for it is to try and eliminate the stress and help with medications that reduce the stress. However, in all cases, every test possible should be given to determine exactly what is causing the condition and if it is associated with any of the other Bowel Health Problems.

Toxic Gut Syndrome: The correct scientific name for TGS is Clostridial Enterotoxaemia. This is a rapid onset (acute) condition which will lead to death in about 24 to 36 hours, caused by the overgrowth of the bacteria **Clostridium** which produces toxins. Once this disease sets in there is no real hope to save the dog. This is one of the most devastating conditions a GSD can contract.

So as you can see, all of these conditions have the same foundation and are all linked. There is a definite cycle or syndrome going on, where one can cause the other and then the other, etc, etc. We must get to the root of the situation and do our best to stop it from encroaching on the health and future of our breed.

The evidence all points to the Pancreas being the root and we have seen enough patterns to know this is a Genetic Issue at play. So how do we deal with this? What can we do to lessen the incidence? Test any breeding stock for EPI, using the TLI testing at intervals starting at 6 months. This can give us better insight into selecting breeding stock by eliminating those from the gene pool that have low levels or who do progress into full EPI. Track your lineage for patterns of “weak constitutions” and poor digestive systems. Keep in touch with all buyers of your puppies. Be outspoken and honest about what your lineage carries so that others can make INFORMED breeding decisions. Only by doing this and working together can we eradicate this from our GS Gene Pool. German Shepherds who are affected by any of these conditions should not be bred...and that includes their First Generation Relatives and Siblings if we are truly interested and dedicated to in our efforts to control these Devastating Diseases.

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