According to current shelter statistics, behavior problems — many due to anxiety — are still the number one cause of euthanasia in the United States.

ANXIETY ADVERSELY IMPACTS THE QUALITY OF LIFE FOR ANIMALS AND THEIR OWNERS.

Selected References


Bertenshaw GV, Michelacci M. (2007) Use of L-Theanine tablets (Anixitame™) and behavior modification for treatment of phobias in dogs: a preliminary study. Poster. 6th IVBM, Riccione, IT.


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Anxiety and negative behavior in companion animals can range from mild to extreme. While stress-induced anxiety is difficult to quantify in dogs and cats, the consequence of ongoing anxiety to the pet’s health and the owner’s peace of mind can be monumental.

**Causes of anxiety:**
- Genetic predisposition
- Incongruent discipline or training
- Stressful changes in the environment/bordering
- Changes in animals or people residing in the house
- Visitors
- Fear with other animals in the household
- Separation from owner/transport
- Fear of thunderstorms or other natural causes

**Signs of anxiety may include:**
- Hyper-attachment to owner
- Eliminating in the house
- Destruction of objects in the environment
- Agitation, nervousness, panting, salivation
- Barking, growling or other aggressive behavior
- Fighting with other animals in the house
- Remove triggers
- Behavior modification
- Chemical anxiety: Drug therapies, non-drug therapies

**Non-Drug Therapies:**

**Colostrum Derived Bioactive Proteins:** Colostrum has been studied extensively for its health-building properties in both humans and animals. Colostrum contains immune-enhancing immune globulins, essential growth factors, cytokines and other classes of proteins (Merc 1993, Dan 1998). Once many of these proteins are broken down in the digestive tract, they produce bioactive peptides that display a wide range of activities ranging from antimicrobial properties, antioxidant activity as well as anxiolytic characteristics. Colostrum contains precursors to neuropharmacologically important molecules that can affect mental alertness, cognitive function and calming in stressed animals. Evaluations of specific protein fractions derived from bovine colostrum in both dogs and cats have shown a reduction in adverse behavior patterns and enhanced calming.

**L-Theanine (N-ethyl-L-glutamate - acid - monomethylingamma - gamma - glutamylamidylamide)** is a unique, non-protein-forming amino acid found in the leaves of the plant (Camellia sinensis) and a large non-edible mushroom (Amanoan donkai). It has been approved in Japan since 1964 for flavoring a variety of foods as it provides the umami flavor that is thought to be a main component of the taste of tea. Rat studies suggested that L-Theanine does have calming properties. The compound apparently binds selectively to glutamate receptors, competitively inhibiting the binding of L-Glutamic Acid. EEG studies on people have shown that L-Theanine affects alpha brain waves in ways characteristic of relaxation responses without inducing drowsiness (Jucea 1999). It also plays a beneficial role in focusing attention on difficult tasks (Gomez-Ramirez 2008) and may reduce anxiety responses while attending to acute stressful tasks (Kimura 2006). The efficacy of L-Theanine as compared with placebo was tested in cats with storm phobia. In combination with a desensitization program, the L-Theanine resulted in reduced signs of anxiety (Araman, in Landsberg 2007), (Berteselli, 2007).

**Lecithin:** Lecithin is a purified substance called phospholipid/phosphoric that belongs to a category of fat-soluble substances called phospholipids. A similar substance (soy phospholipid, fish phospholipid) has been shown in people to reduce stress responses and researchers involved theorize that the effect is mediated through the pre-synaptic and post-synaptic response. Lecithin has been shown to integrate information from the environment for interpretation by the brain (Shereen 2002). Touch is one of the earliest sensory inputs to develop, and the skin is a complex sensory organ that is present in all organisms from the simplest single cell organisms to complex vertebrates. The skin is an extension of the brain, and the skin’s sensory receptors provide the brain with information about the environment.

**Tryptophan** is a dietary amino acid that is a serotonin derivative produced in the pined gland and may inhibit dopamine. It has been recommended as a sleep aid and to reduce signs of thunderstorm phobia (Araman 1999). Selection from high doses has been described anecdotally.

**Hydroxytryptophan** the precursor of serotonin, and hence, an anti-catabolism is enhanced under the influence of hormones, stress, and inflammation. Human research has shown exaggerated anxiety responses in obese women (Russo 2000). In people taking tryptophan, agitation, agitation, dizziness, drowsiness, dry mouth, headache, nausea, poor coordination, and twitching have sometimes been reported.

**Lavender** is a part of traditional aromatherapy techniques, lavender has been used as an anxiolytic herb (Wells 2006) without reported adverse effects.

**“Maintained Pressure” Anxiety wrap:** Tellington Touch methodology. Sensing receptors located in the sensory organs as well as other organs, connective tissue, joints and muscles integrate information from the environment for interpretation by the brain (Chenerman 2002). Touch is one of the earliest sensory inputs to develop, and the skin allows constant feedback to normal touch responses. Maintained pressure is maintained to suppress hyperventilation by tactile receptors that is facilitated by chronic sympathetic stimulation that lowers the threshold required to fire these sensory receptors. No adverse effects are known.

**Summary:** Behavior modification should be combined with either drug or non-drug therapy in the treatment of anxiety. Because the potential for adverse effects and abuse by clients exist when drug therapy is prescribed, non-drug therapy may be a viable first option. Useful dietary modifications for reducing anxiety related behavior patterns may offer a potential solution with minimal disruption of the animal’s normal activity.

**Neurotransmitters of interest in the treatment of anxiety include:**

- **Serotonin (5HT)**
- **Dopamine (DA)**
- **GABA**
- **Glutamate (Glu)**
- **GABA-A**
- **GABA-B**
- **Acetylcholine (Ach)**
- **Histamine (H1)**
- **Histamine (H2)**
- **Histamine (H3)**

**Drug Trials:**

**Adverse effects:**
- Paradoxical excitability, anxiogenic effect on learning and behavior, rebound effects can be seen. In cats, rare instances of hepatotoxicity and death have been reported. Antidepressives can cause aggression due to distribution in white matter.

**Sources:** Gary M. Landsberg, BSc, DVM, DACVB (Behaviour), MRCVS. Treating Canine and Feline Anxiety: Drug Therapy and Pheromones. British Small Animal Veterinary Congress, April 3-6, 2008.