

# Environmental Factors and Signs of Hypercortisolism in Dogs affected with Sudden Acquired Retinal Degeneration (SARDS)

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## ABSTRACT

**Objective:** Dogs affected with Sudden Acquired Retinal Degeneration Syndrome (SARDS) routinely present with signs of hypercortisolism concurrent to blindness, including obesity, depression/lethargy, and confusion. The author hypothesizes that SARD-affected dogs experience Selye's model of stress adaptation in response to present-day, physical stressors. This study evaluates whether eliminating suspected environmental irritants and restoring hypothalamic sensitivity influence initial signs of hypercortisolism. **Animals studied:** Dogs were diagnosed with SARD by a certified veterinary ophthalmologist within the preceding three months and negative for Cushing's disease. Mean age = 8.25 years. Mean time since onset = 4.72 weeks. **Procedure:** 18 dogs were assigned to one of three groups (n = 6). Group 1 experienced no changes to diet, vaccine or pesticide use. Group 2 received oral phosphatidylserine (PS), a fatty acid nutritional supplement reported to blunt adrenocortical activity by restoring hypothalamic sensitivity to circulating cortisol. Group 3 received oral PS, a homemade, grain-free diet, and reduced vaccine/pesticide exposure. A questionnaire was administered to all clients at three- and six-month intervals to determine dogs' body weight and incidence of hypercortisolism signs. **Results** indicated that weight gain was statistically greater for G1 and G2 (7.0% and 5.7%, respectively) compared to G3 (-6.9%) ( $p < 0.05$ ). In addition, G3 had greater decreases in the incidence of signs (-37.04%) compared to G1 and G2 (2.38% and -11.11%, respectively) ( $p < 0.05$ ). **Conclusion:** Lifestyle changes reduce both obesity and incidence of hypercortisolism within the early stages of SARDS.

## Summary in plain English

Dogs with SARDS experience symptoms of depression, excessive hunger, thirst, and weight gain (among others) that are signs of elevated cortisol—the stress hormone produced by the adrenal glands. The author hypothesizes that these dogs experience Dr. Hans Selye's model of stress adaptation, which describes how chronic physical irritation raises cortisol production. Since SARDS has only been identified since the 1980s, suspected physical irritants include commercial pet food, excessive vaccination, and chronic pesticide exposure. This paper discusses the effects of diet, vaccines, and pesticides on adrenal activity, and evaluates whether reducing suspected irritants affects signs of cortisol in these dogs. Results supported the latter. Dogs in the reduced irritant group (G3) had a greater reduction in symptoms and weight as compared to the other dogs.

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