

Sudden Acquired Retinal Degeneration Syndrome

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Synonyms

Silent Retina Syndrome
Neurotoxic Retinopathy
Metabolic Toxic Retinopathy

Note: A syndrome is a collection of historical findings and/or clinical signs that occur in all cases of the disorder. There may be other historical findings or clinical signs that also occur but not in every patient with the syndrome.

To make the diagnosis of SARDS, three conditions must be present:

1. *Complete blindness in both eyes*
2. *Clear and relatively normal appearing eyes*
3. *Flat ERG*

There can be other historical or clinical findings that are associated with SARDS, but they may not always be present.

The typical **signalment** or **profile** for SARDS is any breed of **dog (only dogs to date)**, male or female, typically middle-aged or older and otherwise healthy in the past and well cared for. The history begins with the primary complaint of sudden and profound blindness in both eyes that developed over several days to a few weeks and commonly associated with a simultaneous increased thirst, frequency of urination, appetite and perceived weight gain. The physical examination reveals complete blindness with incomplete PLR and a normal appearing fundus or mild altered tapetal reflectivity. The ocular media is clear and any mild retinal changes seen with the ophthalmoscope are not enough to explain total blindness.

The typical **laboratory workup** results often include a mild to moderate elevation in the alkaline phosphatase and cholesterol. The historical, physical and laboratory findings make one suspicious for Cushings but rarely are any of these animals subsequently diagnosed with Cushings. It is good medical practice, however, to always do either an ACTH stimulation or low dose dexamethasone suppression test in dogs with PU/PD/PP and elevated alkaline phosphatase. In addition, measurement of Doppler blood pressure is advised.

ERG's are always flat with SARDS. The ERG measures the function of the retina up to but not including the ganglion cell layer. This means that the ERG measures photoreceptor function and inner retinal function but if there is ganglion cell damage (as with glaucoma) or optic nerve/chiasm/central disease---the ERG will not show this and will be normal.

SARDS is peculiar in that the retina can look relatively normal yet there is significant retinal damage present.

The ERG is a test that can be done by any veterinary ophthalmologist or a neurologist. In most patients this test can be done while the animal is awake. It involves being placed in a darkened room for 30 minutes followed by the placement of one contact lens electrode on the cornea (only topical anesthesia is necessary) and two skin electrodes. A light is flashed into each eye several times and a recording of the tracing is made.

The **outcome** for SARDS patients is irreversible blindness but usually no other systemic problems. Over time the retina will degenerate and appear grossly abnormal due to retinal atrophy. Most of these animals remain healthy and the clinical signs of PU/PD/PP fade. Very few of these dogs actually have Cushings.

The **cause** for SARDS is unknown at this time. It is thought to be caused by an endogenous (from within the animal's own body) release of a steroid-like substance that is retinotoxic and slightly hepatotoxic. The effect on the retina is permanent but the other clinical signs are transient.

When histopathology has been done in early cases, the outer segments of the retina have been found to be disorganized and degenerate (even when the retina looks relatively normal ophthalmoscopically).

There is no way to predict if and when an animal will succumb to SARDS. The best news to the owner from the veterinarian and ophthalmologist is that it is unlikely that any other problem will develop; notwithstanding the issues that are associated only with being blind. SARDS is not a painful disorder. There is a great set of books that are available for the client which are written for clients with blind animals. These books contain very useful information and are a collection of anecdotes from clients with blind pets. Please see <http://petcarebooks.com/>

There is a period of adjustment for both the pet and the client. Common sense is usually the best reference.

In summary, any dog presenting with the above history and clinical signs should be seen by an ophthalmologist immediately for examination and ERG. They should also all have a CBC, chemistry panel, urinalysis and Cushings workup (ACTH stimulation test and/or Low Dose Dexamethasone suppression test, or first just a urine cortisol-creatinine ratio as a screening test) done, as well as blood pressure measurement. The owner should be reassured that if their pet is diagnosed with SARDS, it is really good news. Unlike with a diagnosis of central blindness, there are apt to be no more widespread and serious internal problems for the animal.