Sildenafil for Dogs?

Pulmonary arterial hypertension is characterized by abnormally high pressure in the pulmonary arteries. Normal systolic pulmonary arterial pressure (PAP) is 25 mm Hg. Clinically affected dogs present with tachypnea, respiratory distress, syncope, and right-sided heart failure. The median survival time after diagnosis is 3 to 3.5 days, the prognosis is grave, and treatment is difficult. Sildenafil citrate has been shown to decrease PAP and pulmonary vascular resistance in humans. The medical records of 13 dogs with pulmonary hypertension treated with sildenafil citrate were reviewed. The median age at diagnosis was 14.5 years. The most common presenting clinical signs included collapse, cough, and respiratory distress, with signs ranging in duration from 3 days to 8 months. An underlying cause was identified in 8 of 13 dogs (chronic pulmonary disease \( n = 5 \), chronic valvular disease with congestive heart failure \( n = 1 \), patent ductus arteriosus \( n = 1 \), and pulmonary thromboembolism \( n = 1 \)). Sildenafil was administered orally at a dose of 1.9 mg/kg Q 8 to 24 H. Concurrent medications as needed were administered. The median PAP was 90 mm Hg; PAP was reevaluated in 8 dogs after therapy, 6 of which had a decrease in PAP (median, 16.5 mm Hg). Three of 13 dogs were euthanized within 1 day of starting therapy. Ten dogs survived until discharge. Of these 10 dogs, 5 dogs died and 3 were euthanized. Two dogs are still alive. The median survival time of all dogs was 91 days (range, 1–693 days). The drug was well tolerated; two dogs exhibited cutaneous flushing in the inguinal region.

**COMMENTARY:** Although this study was limited by its retrospective design and small sample size, it appears to support the use of sildenafil for the adjunctive treatment of pulmonary hypertension. Good client communications will help clear the potential confusion about this therapeutic application of the well advertised human drug.—Bess J. Pierce, MZS, DVM, Diplomate ABVP & ACVIM


Electric Shock is Not Behavior Modification

Electric shock therapy for dogs involves the use of a fitted electronic collar that transmits various levels of an electronic discharge. Shock can be electric or low-level electronic stimulation. The author begins this editorial by stating that recommendations for treatment should be based on the findings of clear, methodical scientific investigation. The author then reviews peer-reviewed articles or widely available Internet information. Flaws in studies included evidence that the investigators or testimonials lacked understanding of basic canine behavior and signaling, poorly designed testing situations, and lack of data collected in a consistent manner. The author discusses the point that dogs that stop reacting to a stimulus as a result of shock may be learning helplessness and not obedience. Another point raised concerns about the strength and duration of shock. What dogs feel and experience may not be what people feel and experience. In other words, other behaviors or behavioral processes may be affected when a dog is exposed to shock. The author raises concern about using shock to extinguish normal behaviors and the harm that may result. If pain and shock are profound, they might cause immediate and permanent changes in the hippocampal memory that will lead to aversion or phobias. Shock from electric fences has been associated with a change in canine behavior from nonaggressive to aggressive. Shock collars are also asserted to be useful in stopping trained patrol dogs from overly aggressive biting, yet the author cites reports to the contrary. The use of shock will continue to be a topic of great debate.

**COMMENTARY:** The use of shock collars for training dogs has always been a controversial topic. My experience with shock training has been primarily with electronic containment systems—something I am personally uncomfortable recommending to my clients. Dr. Overall’s evaluation of electric shock training using the “scientific methodology” approach not only supports my personal beliefs but also provides me with more “ammo” for my next meeting with a “proshocker.”—Sandra A. Sawchuk, DVM, MS