Naturally Occurring Adrenocortical Insufficiency in Dogs

Information regarding naturally occurring adrenocortical insufficiency (NOAI) is primarily based on case series, breed-specific studies, and estimations by breed-specific clubs. In Sweden, an estimated 30% to 40% of dogs are insured through a single company. Epidemiological information was collected from this company’s data for dogs coded for adrenal insufficiency from 1995 to 2006. The database contained 525 028 dogs, and data were analyzed for 534 dogs. The overall incidence in the population was 2.26 cases per 10000 dog years at risk. The relative risk was higher in the following dog breeds: Portuguese water dog, standard poodle, bearded collie, Cairn terrier, and cocker spaniel compared with other breeds combined. Female dogs were at increased relative risk compared with male dogs. Compared with dogs overall, dogs with NOAI had an increased relative risk of death (1.9 × higher). This study provided large-scale epidemiologic data on NOAI.

Commentary
Large, epidemiological studies are rare in small animal medicine and can potentially provide strong evidence for natural tendencies of a disease. This study confirms much of what has already been reported regarding NOAI. The reported breed and sex predilections should increase a clinician’s index of suspicion in animals displaying consistent clinical signs. This study also provides new data on a previously unreported breed predisposition in cocker spaniels and a modest increase in mortality for affected dogs. Although NOAI treatment is usually uncomplicated with appropriate hormone replacement, this increased relative risk for death may indicate some difficulty in clinical management or owner unwillingness to treat long-term. Further outcome investigations are warranted. Information obtained from Swedish dogs must be applied cautiously to the North American population, given geographic differences in breed lines and management practices.—Jennifer Reinhart, DVM, DACVIM (SAIM)

Source
Hanson JM, Tengvall K, Bonnett BN, Hedhammar Å. Naturally occurring adrenocortical insufficiency: An epidemiological study based on a Swedish-insured dog population of 525,028 dogs. JVIM. 2016;30(1):76-84.

Research Note: Anti-Tick Vaccination

Ticks and tick-borne diseases (TBDs) are increasing in severity and importance. Human incidence of TBDs is on the rise, most likely caused by the wider spread of tick vectors. Whereas acaricides are the mainstay for preventing TBDs, rapid resistance development, food chain contamination, and environmental concerns limit their usefulness. Anti-tick vaccination might serve as a helpful alternative. A potential target antigen has been found in AAS19 (Amblyomma americanum tick saliva serine protease inhibitor). Its functional domain is highly conserved across all ixodid tick species. AAS19, expressed in most tick tissues, is injected into the host by the tick and is highly immunogenic. RNAi silencing AAS19 in ticks resulted in smaller blood meals and caused morphologic deformities in the ticks. It was postulated that since AAS19 is injected into the host during feeding, it could serve to booster the initial AAS19 immunization, which would be particularly valuable in wildlife immunization programs for which administering vaccine boosters are impractical. In trials, ticks feeding on rabbits immunized with AAS19 obtained blood meals that were 50% smaller than controls. During a second feeding on immunized rabbits, ticks were smaller and most failed to lay eggs. Although more research is needed, AAS19 could become a component of an anti-tick vaccine in the future.

Source