Canine Cyclic Neutropenia, Cyclic Hematopoiesis, Grey Collie Syndrome, (CN)

In brief

Cyclic neutropenia (CN) is an immunodeficiency condition characterised by cyclic oscillations in a dog’s white blood cell count that causes periodic susceptibility to infections; if untreated, most affected dogs die before 6 months of age. CN affects Collies, which appear characteristically gray in colour. The disease is inherited in an autosomal recessive manner and it has also been encountered in other breeds.

Clinical overview

Neutrophils are white blood cells that play a key role in activating the immune system and dogs affected by CN suffer from low neutrophil counts. The neutrophil count in affected dogs oscillates in 11-14 day cycles. Due to the periodic drops of white blood cell count, affected dogs are extremely susceptible to infections during 2-4 days. The gray-coloured appearance can be observed at birth. Other clinical signs occur typically at 6-8 weeks of age. The clinical signs include recurrent fever and illness lasting for 3-5 days, susceptibility to infections, increased bleeding, and slow wound healing. An affected puppy may appear smaller and weaker than litter mates, as well as exhibit a loss of appetite and diarrhea. If untreated, most affected dogs die before 6 months of age.

References

Online database
Online Mendelian Inheritance in Animals, OMIA (http://omia.angis.org.au/), Faculty of Veterinary Science, University of Sydney.

Scientific articles