Brucella canis in Dogs from South Dakota Reservations

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In the literature

Daly R, Willis KC, Wood J, et al. Seroprevalence of *Brucella canis* in dogs rescued from South Dakota Indian reservations, 2015-2019. *Prev Vet Med*. 2020;184:105157.

FROM THE PAGE …

Brucella canis is a long-recognized cause of abortion, reproductive failure, and many other health disorders in dogs, including epididymitis, orchitis, prostatitis, diskospondylitis, osteomyelitis, and meningoencephalitis.[1,2] Zoonotic transmission can occur through contact with the reproductive fluids, blood, urine, feces, saliva, and nasal secretions of infected dogs.[1,2] Treatment failure and relapse are common in dogs, and euthanasia is frequently chosen. This disease carries significant emotional and economic hardships for dog owners and breeders, and management can be challenging for clinicians, shelters, and public health officials. The full impact of *B canis* on human health and the true prevalence in dogs remain unknown.[1,2]

This study examined the seroprevalence of *B canis* in stray and owner-surrendered dogs on 2 reservations and surrounding areas in South Dakota from 2015 to 2019.[1] Rescue groups operate in and around these reservations, where stray dogs are common. Investigators aimed to characterize the seroprevalence of infection among dogs from these reservations and adjacent areas after an adopted dog was discovered to be seropositive for *B canis*, as this could have a negative impact on future rescue operations.

In the first year of the study, dogs were tested via indirect immunofluorescence assay; positive results were confirmed with agarose gel immunodiffusion. In subsequent years, testing was done using the rapid slide agglutination test, followed by the 2-mercaptoethanol test in cases with initial positive results. There was no significant difference in seropositivity rates between the testing methods. The overall apparent seroprevalence was 6.8% of 3,898 dogs tested, with an estimated true prevalence in the population of 29.4%. Higher seropositivity rates were noted in intact and older dogs (especially those >2 years of age). No sex predisposition was noted. Dogs originating from one reservation were much more likely to be positive than those from the other reservation or surrounding areas; the reason for this is unknown.

… TO YOUR PATIENTS

Key pearls to put into practice:

1. The true prevalence of *B canis* among dogs is unknown and varies by geographic region, individual, age, and reproductive status.[1,2]
2. Infection is transmitted between dogs venereally or through oral contact with reproductive fluids and tissues.[1]
3. Infection is likely to be higher among stray dogs than owned dogs or those surrendered to a shelter.[1]

References

1. Daly R, Willis KC, Wood J, et al. Seroprevalence of *Brucella canis* in dogs rescued from South Dakota Indian reservations, 2015-2019. *Prev Vet Med.* 2020;184:105157.
2. Hensel ME, Negron M, Arenas-Gamboa AM. Brucellosis in dogs and public health risk. *Emerg Infect Dis.* 2018;24(8):1401-1406.