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STUDENT RESEARCH SESSION

Incidence of and factors affecting congenital defects in miniature Dachshunds

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A congenital defect is a malformation that is present and identifiable at birth. Congenital defects may result from genetic and/or environmental influences. In a review of several dog breeds, the most common defects reported were cleft palate and hydrocephalus.[1] In this review, Dachshunds had a relatively low frequency of congenital defects compared to other breeds.[1] However, the specific congenital defects in Dachshunds were not stated. As such, the current study aimed to investigate the incidence of congenital defects in miniature Dachshunds, along with the potential influences of neonatal sex, maternal age, and sire-dam consanguinity. Descriptive statistics with an odds ratio was performed on the data. One hundred and nineteen puppies from 33 litters from a single kennel were examined at birth. Fifty-nine were male and 60 were female pups. The mean ± SD litter size was 3.6 ± 1.3 pups. There were 3 stillborn pups (2.5%) including a schistosomus reflexus.[2] Additional congenital defects included severe retrognathism with class II distocclusion (n = 2; 1.6%), hydrocephalus with occipital dysplasia (n = 1; 0.8%), and complete cleft palate (n = 1; 0.8%). One puppy with retrognathism also had congenital hindlimb rigidity that resolved spontaneously over the first 3 weeks of life. The overall frequency of congenital defects was 4.2%. Within this kennel, the odds of having a congenital defect were 1.6 times larger in male than female pups. The incidence of congenital defects appeared (p = 0.334) to increase with maternal age (≤ 2 years old: 1 out of 56 pups [1.8%]; 3 - 5 years old: 2 out of 41 pups [4.9%]; ≥ 6 years old: 2 out of 22 pups [9.1%]) but this was not significant with this sample size using a Chi square. None of the bitches with malformed pups were primiparous. One litter of consanguineal mating between half siblings did not result in malformed pups; however,1 litter with a consanguineal mating between mother and son and another litter between great grandmother and son resulted in 2 malformed pups (1 per litter). These results confirmed previous findings that Dachshunds have a relatively low frequency of congenital defects.[1] Both cleft palate and hydrocephalus had been reported in Dachshunds.[1,3] In addition, the results from this study indicated that advancing maternal age may increase the incidence of congenital defects in dogs but more research with a larger sample size is needed to confirm this observation.

Keywords: Dachshund, congenital, defects, factors

References

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