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| Table S2. Characteristics of the study population and covariates. |
| N. | Covariates  | Categories | Canine Otitis %(n) |
| **Cases, %****(n=1237)** | **Controls, %****(n=1827)** | **Total, %****(n=3064)** |
| 1 | Maternal history of Otitis | Mothers without otitis | 60.9 (262a) | 93.2 (806b) | 82.5 (1068) |
| Mothers with otitis | 39.1 (168a) | 6.8 (59b) | 17.5 (227) |
| 2 | Canine AASS | Dogs without AASS | 64.5 (743a) | 87.3 (1558b) | 78.4 (2301) |
| Dogs with AASS | 35.5 (409a) | 12.7 (226b) | 21.6 (635) |
| 3 | Dog breed | Non-otitis prone breeds | 33.7 (333a) | 56.0 (756b) | 46.5 (1089) |
| Otitis prone breeds | 66.3 (656a) | 44.0 (595b) | 53.5 (1251) |
| 4 | Dog sex | Male | 48.8 (588a) | 43.8 (778b) | 45.8(1366) |
| Female | 51.2 (616a) | 56.2 (998b) | 54.2 (1614) |
| 5 | Dog color  | White >50% | 20.8 (240a) | 19.5 (336a) | 20.0 (576) |
| White <50% | 79.2 (916a) | 80.5 (1383a) | 80.0 (2299) |
| 6 | Dog’s ear shape | Erect ears | 23.4 (236a) | 40.9 (566b) | 33.5 (802) |
| Semi-erect ears | 13.9 (140a) | 18.1 (250b) | 16.3 (390) |
| Dropped ears | 62.7 (633a) | 41.1 (569b) | 50.2 (1202) |
| 7 | Hairy/pilose ears | Non-hairy/pilose ears | 82.3 (830a) | 85.8 (1188b) | 84.3 (2018) |
| Hairy/pilose ears | 17.7 (179a) | 14.2 (197b) | 15.7 (376) |
| 8 | Mother’s diet during pregnancy  | NPMB | 5.6 (41a) | 8.9 (103b) | 7.6 (144) |
| UPCD | 94.4 (694a) | 91.1 (1058b) | 92.4 (1752) |
| 9 | Was the mother dewormed during pregnancy? | Yes | 97.5 (696a) | 97.2 (1131a) | 97.3 (1827) |
| No | 2.5 (18a) | 2.8 (33a) | 2.7 (51) |
| 10 | Was mother vaccinated during pregnancy? | Yes | 52.8 (211a) | 49.4 (337a) | 50.6 (548) |
| No | 47.3 (189a) | 50.6 (345a) | 49.4 (534) |
| 11 | Age / years, mean ± SD1 | 5.25 ± 2.94 | 5.56 ± 2.70 | 5.44 ± 2.8 |
| 12 | Mother’s diet during lactation | NPMB | 6.5 (45a) | 8.4 (93a) | 7.7 (138) |
| UPCD | 93.5 (646a) | 91.6 (1014a) | 92.3 (1660) |
| 13 | Season of birth | Winter (Dec-Feb) | 27.8 (337a) | 24.2 (437b) | 25.7 (774) |
| Spring (March-May) | 31.7 (384a) | 32.5 (586a) | 32.2 (970) |
| Summer (June-Aug) | 21.4 (259a) | 23.6 (425a) | 22.7 (684) |
| Autumn (Sept-Nov) | 19.2 (233a) | 19.7 (355a) | 19.5 (588) |
| 14 | Puppy’s first solid diet | NPMD | 6.3 (46a) | 8.6 (96a) | 7.7 (142) |
| UPCD | 93.7 (687a) | 91.4 (1024a) | 92.3 (1711) |
| 15 | Frequency of outdoor activity | Many times / day | 53.2 (488a) | 61.2 (857b) | 58.0 (1345) |
| Once / day | 17.0 (156a) | 15.7 (220a) | 16.2 (376) |
| A few times / week | 14.1 (129a) | 11.2 (157a) | 12.3 (286) |
| A few times / month | 6.2 (57a) | 3.9 (55b) | 4.8 (112) |
| Not at all | 9.5 (87a) | 8.0 (112a) | 8.6 (199) |
| 16 | Sunlight exposure, hours / day  | Not at all | 53.8 (348a) | 44.8 (459b) | 48.3 (807) |
| ≥ 1 hour | 46.2 (299a) | 55.2 (566b) | 51.7 (865) |
| 17 | Type of flooring | Dirt / lawn floor | 5.7 (55a) | 7.6 (111a) | 6.9 (166) |
| Non-dirt / lawn floor | 94.3 (908a) | 92.4 (1346a) | 93.1 (2254) |
| 18 | Body condition score | Overweight puppies | 14.0 (145a) | 14.8 (228a) | 14.5 (373) |
| Normal weight puppies | 75.5 (781a) | 76.5 (1175a) | 76.1 (1956) |
| Underweight puppies | 10.4 (108a) | 8.7 (133a) | 9.4 (241) |
| 19 | Puppy diet | NPMD | 7.2 (44a) | 11.0 (95b) | 9.4 (139) |
| UPCD | 92.8 (566a) | 89.0 (766b) | 90.6 (1332) |
| 20 | Was the dog born into the same human family as where it stayed as adult? | No | 95.6 (1183a) | 90.4 (1652b) | 92.5 (2835) |
| Yes | 4.4 (54a) | 9.6 (175b) | 7.5 (229) |
| 21 | Outdoor activity, hours / day | < 0.5 | 2.2 (23a) | 2.4 (36a) | 2.3 (59) |
| 0.5 – 1.0 | 28.0 (293a) | 26.5 (401a) | 27.1 (694) |
| 1.0 – 2.0 | 53.8 (562a) | 51.2 (776a) | 52.3 (1338) |
| > 2.0 | 16.0 (167a) | 19.9 (302b) | 18.3 (469) |
| 22 | Sunlight exposure, hours / day | ≤ 1 | 27.6 (268a) | 25.4 (348a) | 26.3 (616) |
| > 1 | 72.4 (703a) | 74.6 (1023a) | 73.7 (1726) |
| 23 | Type of flooring | Dirt / lawn | 8.9 (98a) | 12.2 (223b) | 11.0 (321) |
| Non-dirt / lawn | 91.1 (1002a) | 87.8 (1604b) | 89.0 (2606) |
| 24 | Body condition score | Overweight puppies | 7.2 (78a) | 6.0 (95a) | 6.5 (173) |
| Normal weight puppies | 65.7 (714a) | 69.3 (1099a) | 67.9 (1813) |
| Underweight puppies | 27.1 (294a) | 24.7 (391a) | 25.6 (685) |
| 25 | Was the puppy vaccinated 2-4 times under 1 year of age? | Yes | 99.2 (1210a) | 99.0 (1776a) | 99.1 (2986) |
| No | 0.8 (10a) | 1.0 (18a) | 0.9 (28) |
| 26 | Was the puppy dewormed 2-10 times under 1 year of age?  | Yes | 99.6 (1200a) | 99.0 (1744a) | 99.3 (2944) |
| No | 0.4 (5a) | 1.0 (17a) | 0.7 (22) |

1 Age / years calculated as mean ± SD.

a,b Different letters means significant difference within the same row at p<0.05.