ABSTRACTS

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Feline dystocia reflected from an insurance database

Ström Holst, B1,2; Axnér, E1; Möller, L3; Egenvall, A1

1Department of Clinical Sciences, PO Box 7054, Swedish University of Agricultural Sciences (SLU), SE-750 07 Uppsala, Sweden; 2Department of Animal Health and Antimicrobial strategies, National Veterinary Institute (SVA), SE-751 89 Uppsala, Sweden and 3Agria Insurance, PO Box 70306, SE-107 23 Stockholm, Sweden.

OBJECTIVES AND METHODS: Cat breeding is popular, and at present 41 different breeds are registered in Sweden. Many of these are numerically small. Breeding of numerically small breeds potentially leads to problems resulting from inbreeding. An increased risk for dystocia with inbreeding has been described in cattle (1). A varying risk for dystocia between breeds has been reported for dogs (2). In cats, dystocia is seen in 8% of pedigree litters (3,4). Maternal causes, mainly uterine inertia, have been described as the most common cause of dystocia (5). Pedigree cats have been described to be at a significantly higher risk of dystocia than mixed breed cats (6), but a significant difference in prevalence between individual cat breeds has hitherto not been shown. In the present study, the Swedish insurance database (Agria Insurance, PO 70306, SE-107 23, Stockholm, Sweden; www.agria.se) was used to describe the incidence and probability of developing caesarian section and dystocia, with respect to mainly age and breed. The data used were reimbursed claims for veterinary care insurance or/and life insurance claims in cats insured at the Agria insurance company during the period from 1999 to 2006.

Data on all cats insured between 1999 and 2006 were downloaded from the insurance database. Breeds that were considered closely related were combined. Data have been presented for individual breeds with at least 1,000 cat-years at risk (CYAR). Two datasets were created. One consisted of all cats with veterinary care insurance and cats were included when < 13 years old. The other consisted of cats with both veterinary care and life insurance (<13 years old). In both these, cats with at least one reimbursed receipt for claimed insurance, with a relevant diagnosis submitted to the insurance company contributed to the numerator for morbidity; i.e. for the first dataset the cases was only for veterinary care while in the combined dataset, the claims could be of both or either insurance types. In the latter the case fatality, i.e. the proportion with claimed life-insurance was determined. Incidence rate (IR) calculations were performed with the exact time at risk (cat-years at risk (CYAR)) as the denominator. Rates are expressed as cats (cases with at least one event) per 10,000 CYAR. The probabilities of acquiring each diagnosis at certain ages (i.e. 1-survival to the first event, from 1 to 12 years) were constructed using stratified Cox proportional hazards regression without covariates. The smooth macro was used to transform the baseline survival into age-specific hazards. Data handling was performed by SAS version 9.1.

RESULTS: During 1999 to 2006 the population of cats with veterinary care insurance was 296 964 and the total number of CYAR 993 184. The number of cats with both veterinary care and life insurance was 48 596 cats and 139 515 CYAR. In the population with a veterinary insurance, 1008 cats had an insurance claim for dystocia or caesarean section (IR 22): 642 only for caesarean section, 366 only for dystocia and 76 had both diagnoses. This means that 71% of the cats with dystocia underwent caesarean section. In the population of cats with both a veterinary and a life insurance, 700 cats were reimbursed for caesarean section or dystocia (IR=79), 79 of these (11%) had a life insurance claim, thus the overall mortality rate was 11%. The median age for both diagnoses was 2.4 years (95% CI 1.1-7.0 years). Of the total 1008 cats with this diagnosis in the veterinary care dataset, 105 (10%) recurred (i.e. had a new claim at least 90 days later). Of these 105 cases, the birman was the breed making up the single largest number of cases, 23 cases (22 % of the recurrent cases). In total, 80 (76%) of the cases were from five breeds: Birman, British shorthair, Siamese, Abyssynian and Persian. The overall incidence of dystocia or caesarean section in the population with veterinary care insurance was 22 cases per 10 000 CYAR, varying significantly by breed, based on non-overlapping confidence intervals. There was no significant effect of location.

CONCLUSION: A significant effect of breed was seen for dystocia and caesarean section. The IR was higher in the group of cats with both veterinary and life insurance than in cats with a veterinary insurance only (IR 79 and 22, respectively). A higher proportion of purebred cats in the group with life insurance may explain this. There was no effect of location; i.e. the IR did not differ depending on whether the cat lived in an urban or rural area. The result of the present study provides valuable information for designing cat breeding programs.


