

VSSO Vision 2020 Scientific Abstract Submission

PAGE 2: Anonymized Submission (for blinded review)

Title: “Evaluation of feline insulinoma: A Veterinary Society of Surgical Oncology retrospective study of 20 cases (2006-2019)”

Introduction: There is a paucity of information in the veterinary literature regarding feline pancreatic endocrine neoplasms, with current information relegated to case reports only. The proposed study is a retrospective analysis to examine the incidence, clinical signs and effect of surgical therapy for feline insulinoma (INS) over a 14-year period.

Materials & methods: Medical records of 37 client-owned cats from academic institutions and referral practices were evaluated. 20 cats that presented for hypoglycemia with a pancreatic mass had surgery performed via partial pancreatectomy or nodulectomy/enucleation were included in the survival analysis. The median disease free interval (DFI) and median survival time (MST) were calculated using the Kaplan-Meier method. Potential prognostic variables were evaluated using univariate Cox proportional hazards regression analysis. The level of significance selected was $P < 0.05$. All analyses were carried out with the R version 3.6.2 statistical software.

Results: 20 cases were analysed (17 exclusions due to incomplete records). All cases were hypoglycaemic with a pancreatic mass and 15 of 17 had inappropriate insulin levels reported. Mean blood glucose was 38.4 mg/dl (\pm SD 14.7) and mean insulin level was 21.6 μ IU/mL (\pm SD 16.0). 10 females (3 intact, 7 spayed) and 10 males (2 intact, 8 neutered) of various breeds with a mean age of 12.4 years (\pm SD 3.4) and mean weight of 4.7 kg (\pm SD 1.6) were included. Neurologic and gastrointestinal signs were common on presentation. Imaging revealed a pancreatic nodule in 16 of 20 cats. Partial pancreatectomy or nodulectomy/enucleation were performed in all cases. 6 of 13 cats had reported neoplastic invasion to the surgical margins and 2 cats had metastasis to the liver at time of surgery. The final diagnosis was 15 insulinoma, 3 neuroendocrine adenocarcinomas, 1 beta cell adenoma and 1 nodular hyperplasia with pancreatitis. Immediately post-operative, 18 cats were euglycemic or hyperglycemic. Age and histopathologic evidence of tumor invasion were significant prognosticators of DFI. Histopathologic evidence of tumor invasion was a negative prognostic indicator for DFI and MST. The median DFI for cats with histopathologic evidence of neoplastic invasion and in all cats was 624 and 1052 days, respectively. The MST for cats with histopathologic evidence of neoplastic invasion and in all cats was 562 and 786 days, respectively. The hazard ratio of all-cause mortality for cats with histopathologic evidence of invasion was 6.9 times (95% CI, 1.1-132.1) higher than those without invasion.

Conclusions: Surgically managed cases resulted in euglycemia or hyperglycemia. Surgical excision is the recommended treatment of choice for feline pancreatic endocrine neoplasms with the majority of patients having good disease free interval and survival times.

VSSO Vision 2020 Scientific Abstract Submission

