ANTI-EPILEPTIC DRUGS AND CATS

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INTRODUCTION

Epileptic cats are not uncommon and pose unique therapeutic challenges for both the owner and the veterinarian when attempting chronic treatment. For example, cats can be extremely difficult for owners to pill. It is also important to remember that primary epilepsy is less common in cats than in dogs, and an underlying cause for their seizures should always be sought. Although there is less information on the treatment of epileptic cats than there is on dogs, therapeutic protocols have been established using a number of drugs.

PHENOBARBITAL

Phenobarbital can be used as an effective anti-epileptic drug in cats. The dose rate used and blood levels desired are similar to dogs, but there are some specific side effects that may be seen. Phenobarbital has been associated with greater sedation in cats than dogs, therefore the therapeutic blood level range is 10-30 microg/ml and the initial dose rate is 1 - 2 mg/kg/q12-24 hours. The author usually doses them twice a day, but in some cats once daily dosing at night will suffice. Polyphagia, PUPD, blood dyscrasia, dermatitis and unusual behavior can all occur. Severe hepatotoxicity has not been reported in cats, but this may simply reflect the fact that far fewer cats receive chronic phenobarbital therapy. Cats' hepatic function should therefore be monitored in the same way as dogs on phenobarbital, with blood levels and hepatic function checked every 6 -12 months.

POTASSIUM BROMIDE

Potassium bromide has a shorter half-life in cats than in dogs: a dose rate of 30 mg/kg/day achieved steady state in 5 weeks and therapeutic blood levels within 2 weeks. However, in the same study, seizures were only controlled in 7 of 15 cats, and half the cats developed adverse side effects, the most common of which was a cough. This is thought to result from secretion of bromide into the airways, causing irritation. Although this was initially described as asthma, and seems more common in cats with previously diagnosed reactive airways, it is not responsive to glucocorticoid therapy and can only be treated by withdrawal of the drug. As a result of these problems, potassium bromide is not recommended as a first line of therapy in cats.

BENZODIAZEPINES

Oral diazepam can be used as a maintenance anti-epileptic drug in cats as it has a longer half-life in this species. The dose rate used is 0.5 - 2 mg/kg p.o. divided q12 to 8 hours. However, oral diazepam can cause hepatic necrosis in a small percentage of cats, and is associated with sedation, polyphagia and weight gain, and PUPD. All cats should have a serum chemistry panel run within a month of starting therapy to check for evidence of liver disease. Trough serum levels should be in the range of 200-500 ng/ml. Alternative benzodiazepines that have been used with success include clonazepam (0.5 mg q12 - 24 hours) and clorazepate (3.75-7.5 mg q24 hours). Intravenous diazepam or midazolam can be used to control status epilepticus.

GABAPENTIN

Gabapentin (neurontin) has been used successfully to treat epilepsy in cats. It is excreted by the kidneys and is therefore particularly useful in cats with liver disease. The most significant side effect is sedation and some authors advocate starting at a lower dose (3-5 mg/kg/q24 hours) and then increasing to 3-5 mg/kg every 12 hours after 1 - 2 weeks. Therapeutic blood levels have not been determined and therefore monitoring of blood levels is not necessary.

CASE EXAMPLE

Signalment: 5-year-old female spayed DSH cat. This case illustrates the treatment options available in cats, and all the drug side effects that can be encountered.

This cat developed generalized seizures 1 week previously, her minimum data base was unremarkable, and therapy with phenobarbital was instituted. She was referred with worsening seizure frequency. On admission she was extremely fractious and difficult to examine, but neurological examination was otherwise unremarkable. The only notable finding was enlarged popliteal lymph nodes.

REFERENCES