

COMPARISON ON THE USE OF ATROPINE-XYLAZINE-2% LIDOCAINE
EPIDURAL EPIDURAL AND ATROPINE-XYLAZINE-KETAMINE
ANESTHESIA FOR CASTRATING CATS (*Felis catus*)

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THESIS

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**COMPARISON ON THE USE OF ATROPINE-XYLAZINE - 2%
LIDOCAINE HCl CAUDAL EPIDURAL AND ATROPINE-
XYLAZINE-KETAMINE ANESTHESIA FOR
CASTRATING CATS (*Felis catus*)**

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ABSTRACT

SANTIAGUEL, HARLENE NIERVA. "COMPARISON ON THE USE OF ATROPINE-XYLAZINE - 2% LIDOCAINE HCl CAUDAL EPIDURAL AND ATROPINE-XYLAZINE-KETAMINE ANESTHESIA FOR CASTRATING CATS (*Felis catus*)" Undergraduate Thesis. Doctor of Veterinary Medicine, Cavite State University, Indang, Cavite, April 2008. Adviser: Eugene M. Principe, DVM, MS.

The study determined and compared the effects of atropine-xylazine-2%lidocaine (AXL) caudal epidural and atropine-xylazine-ketamine anesthesia (AXK) for castrating cats after drug administration, during the operation, after the operation and at recovery. Ten apparently healthy, mixed breed, male, house cats weighing 1.5 to 3 kg were used as subjects in the study. The cats were randomly divided into two groups of five: Treatment 1: atropine-xylazine-2%lidocaine (AXL) given at a dose of 0.04 mg/kg SC, 2 mg/kg IM and 1ml/4.5kg caudal epidural respectively and atropine-xylazine-ketamine (AXK) given at a dose of 0.04mg/kg SC, 2mg/kg IM and 15mg/kg IM respectively.

The mean heart rates after drug induction until recovery in both treatments had increased compared to the baseline but were close to the normal values (120-140 beats per minute). The mean respiratory rates in the AXL group increased only during and after the operation. The values were higher but were still close to the normal range (16-40 breaths per minute). In contrast, the mean respiratory rates in the AXK group were within the normal range with a slight decrease after drug induction until during the operation and a slight increase after the operation until recovery. The mean rectal temperatures in both treatments were maintained within the normal range.

Effects of anesthetics were also assessed. The difference in the mean onset of anesthesia between the two groups was highly significant (26 min in the AXL group and

8 min in the AXK group). Based on duration, the difference in the mean values was also highly significant between both treatments (30 min in the AXL group and 107.20 min in the AXK group).

Vomiting was observed in both treatments due to the effect of xylazine, movements of the animal during the operation such as movements of the tail and retraction of the hind limb were observed only in the AXL group. Salivation was observed in all cats in both treatment groups. Vocalization was not observed in both treatment groups. No serious post operative complications were seen in both treatments.

Results of the study showed that xylazine sedation and epidural administration of 2% lidocaine is a possible option to facilitate performance of castration in cats if in case general anesthetics are unavailable. This regimen and technique may have outward reactions such as movements of the tail and transient retraction of the hindlimbs and would require good restraint of patients for proper execution of the procedure.

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INTRODUCTION

Stray cats and dogs are everywhere in the Philippines. They get bumped by speeding cars and it is a common sight to see mangled decomposing corpses of cats on the road. There are just not enough effective government programs to address stray animal problems.¹

Places that we can see where pet overpopulation is a serious problem are in low income neighborhoods. The reason is that people who live in these neighborhoods simply cannot afford to have their pet spayed or neutered or simply do not have the knowledge about it. Spaying or neutering is one of the solutions to pet over population. Sterilization

¹ A Good Role Model in Controlling Pet Overpopulation. <http://www.pinoycatlover.com/2007/03/02/a-good-model-for-controlling-pet-overpopulation/>