Immobilization of Lions at Arignar Anna Zoological Park

K. Senthilkumar¹, M. G. Jayathangaraj² and Pathan Nazrullah Khan³
Arignar Anna Zoological Park, Vandalur, Chennai- 600 048

Immobilization becomes an embarrassing one for the newly employed veterinarian in forest department esp. in captive wild animal places like zoological park and though it is a fact that any veterinarian is often forced to act on educated guesses on body weight, health status, metabolic rate, age, sex, pregnancy status and biology of species, it is equally true that the mortality rate due to immobilization procedures should be kept to the possible minimum. Interestingly, the technical programme carried out with Asiatic crossbred lions at Arignar Anna Zoological Park are discussed in this paper and this shall be of useful for field veterinarians who encounter show animals and captive animals of zoos.

Materials and Methods
Nine cross-bred Asiatic lions were immobilized on different occasions for the purpose of translocation and xylazine was used at the rate of 150-200 mg, along with combination of ketamine at rate of 400-650 mg in these lions and Yohimbine was used as an antidote at dose rate of 200-300 mg. Blow pipe was used during all such executions of immobilizations and atropine sulphate was also used at rate of 0.04 mg/Kg.

Results and Discussion
In all the cases within a range of 10-14 minutes, sedation occurred and the duration of immobilization lasted for 120 minutes to 150 minutes. No convulsions were noticed in any of the felid encountered during immobilization.

Usage of xylazine and ketamine as carried out in these captive lions was supported by findings of Wallach and Boever (1983) who opined that ketamine shall be used at dose rate of 10 mg/Kg body weight, along with xylazine at dose rate of 2mg / Kg body weight and this may lead to good muscle relaxation, best immobilization and good analgesia and is the best overall anaesthetic for wild carnivores; If xylazine alone is used, the animal may have a tendency to be aroused by auditory, visual and physical stimuli and similarly, if ketamine alone is used, muscular rigidity and even convulsions occur sometimes. However, in all the cases under investigation, no such convulsions were encountered and the duration of range of 1-3 hrs was adequate for the short-distance translocation that is usually required in a zoo premise and is further adequate for execution of invasive procedures like attending of wound, application of basic clinical investigation techniques including sampling, administration of medicaments continuously by intra-venous route etc.

Usage of atropine sulphate as done in these cases was in agreement with the findings of Fowler (1986) who quoted that atropine sulphate usage helps to reduce salivation; In the context of usage of ketamine, it is to be remembered that ketamine crosses the placenta in all species and ketamine is detoxified in liver (Fowler, 1995). Hence, a clinical zoo veterinarian should be aware of consequences of usage of ketamine either alone or in combi-

1. Veterinary Asst Surgeon, Arignar Anna Zoological Park, Vandalur, Chennai-600 048
2. Associate Professor and Head, I/C, Department of Wildlife Science, Madras Veterinary College, Chennai- 600 007
3. Veterinary Officer, Arignar Anna Zoological Park, Vandalur, Chennai- 600 048
nation with xylazine esp. on felids with status of pregnancy and hepatic disorders. Bush (1996) also recommended the usage of xylazine in conjunction with other drugs like ketamine and further quoted that ketamine hydrochloride infection had disadvantages like poor muscle relaxation, excessive salivation and tendency for the subjected animals to convulse and Arora (1998) quoted that over dosage of xylazine and ketamine should be avoided since it may lead to death; However the dose range selected during this study did not result in death in these felids and was found to be satisfactory.

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References


