

Chemical Restraint and Shifting of a Nilgai (*Boselaphus tragocamelus*)

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Nilgai or Blue bull (*Boselaphus tragocamelus*) is a wild ruminant and is classified under the order Artiodactyl and family Bovidae. Domestic and wild ruminants are poor subjects for general anaesthesia or chemical immobilization as they are more susceptible to regurgitation and aspiration, which can be fatal. The present report communicates a case of chemical immobilization and moving of a nilgai.

An adult male Nilgai weighing about 200kg was maintained in the deer safari of Chhatbir Zoo. It developed an aggressive nature and started injuring other deer. After repeated complaints by the animal keeper it was decided to move the animal from the deer safari to a separate new enclosure. The shifting operation was planned for the morning hours. As the animal was in the deer safari, no pre-anaesthetic preparation was practicable. Xylazine¹ 1.0 ml and ketamine² 1.0ml were administered intramuscularly by pneumatic type dart syringe. The animal ran away and kept wandering. After 30-35 min slight staggering was observed, the Nilgai sat down but was still alert. Then an equal dose (1.0ml xylazine and 1.0ml ketamine) was repeated. After 7 minutes the animal became immobile with protrusion of tongue. Respiration was deep and depressed and rectal temperature was 100°F. Blood sample was collected in a vial containing EDTA. Haematological report was as follows: Haemoglobin 8.0g.dL, Total leukocyte count 4550/cumm, Neutrophils 42%, Lymphocyte 54%, Monocyte 02%, Eosinophil 02%. Fore limbs and hind limbs were tied together, separately with rope and the animal was loaded on a padded tractor-trolley for shifting to a separate enclosure. Bloat occurred but it was managed by needle trocarization of the left flank. The animal was administered yohimbine³ 4.0ml, intravenously, to reverse the anaesthetic effect but no signs of recovery were observed for 10-15 minutes. Again yohimbine 2.0ml was given along with intravenous physiological fluid therapy (5L). It took about two hours for complete recovery. Animal started taking fodder and water immediately after standing. During chemical immobilization no regurgitation was observed.

Arora (1998a) reported dose of [Hellabrunn mixture consisting of xylazine and ketamine (1.25:1)] ranging from 0.5ml to 1.5ml for immobilization of Nilgai. Sharma *et al.* (1997) administered 200mg and 100mg xylazine and ketamine, respectively for chemical immobilization of Nilgai; while in the present study a total dose of 200mg of xylazine and 200mg of ketamine combined in a single syringe was given in two equal divided doses. Requirement of a higher dose in the present study could be attributed to the excited state of the animal induced by repeated doses and noisy environment. In one report higher total dose (4.5 to 5.0ml) of xylazine and ketamine (1:1) was used for chemical immobilization of two nilgai (Arora, 1998b). The anaesthetic effects were antagonized by 30mg of yohimbine, intravenously (Sharma *et al.*, 1997) but in the present study a high dose (60mg) was required along with intravenous fluid therapy to antagonize the

anaesthesia, which might be attributed to higher dose of xylazine. Xylazine is a potent inhibitor of gastro-intestinal motility, which might be the cause for bloat during anaesthesia, and it was managed by keeping the animal in sternal recumbency with extended head and neck and rumen trocarization from left upper flank.

References

- Arora, B.M. (1998a). Chemical immobilization of deer and antelopes. *Tigerpaper* XV(1): 8-14.
Arora, B.M. (1998b). Chance immobilization of high dosages of xylazine and ketamine in captive wild mammals. *Zoos' Print* 13(3): 23.
Sharma, K.K., T. Barthakur, D. Thakuria, B.S. Bonal and M. Barua (1997). Chemical immobilization of Blue bull (*B. tragocamelus*) with ketamine-xylazine combination and its reversal with yohimbine hydrochloride. *Zoos' Print* 12(1): 29.
¹ Ilium Xylazil-100, (containing xylazine 100mg/ml), Troy labs. Pvt. Ltd., Australia
² Ketamil-100, (containing ketamine 100mg/ml), Troy labs. Pvt. Ltd., Australia
³ Romaverse, (containing Yohimbine 10mg/ml), Jurox Pvt. Ltd., Australia.

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Common Grey Mongoose
(*Herpestes edwardsi*)