

Detomidine immobilization in wild and semi-domesticated reindeer

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The effects of the stress of capture and transportation on physiological parameters have been studied previously in semi-domesticated and wild reindeer in Finland (see Hyvärinen *et al.* 1976, Nieminen and Laitinen 1983, Timisjärvi *et al.* 1988). Gatherings have affected nearly all lactate and serum sodium, urea and different enzyme activities have changed is indicative of the stress induced by capture and transportation. Immobilization of wild animals is today used not only to facilitate translocation but has become necessary, useful also for veterinary, biological and ecological research. Ideally, chemical restraint provides reversible and controlled immobilization of the animal for safe handling and minimize risk to the animal and investigator. During the last years a sedative called detomidine (Domosedan, Farnos Group Ltd), which is an alpha-2 agonist, has been successfully used to restrain horses, cattle and deer. During 1982–85 altogether 126 semi-domesticated (*Rangifer tarandus tarandus* L.) and 15 wild forest reindeer (*R. t. fennicus* Lönn.) were immobilized with detomidine. Male and female reindeer were immobilized during summer and winter. Body weights of the reindeer (age from 2 months to 10 yrs) were estimated before intramuscular injections. Using hand syringe injection dosage of detomidine was 40–100 µg/kg BW (n = 50) and 100–300 µg/kg BW (n = 16). Immobilization was also induced by dart gun (Paxarms Mark 24 syringe riffle in 0.465 cal, Paxarms Ltd, Timary, New Zealand) using detomidine (dosage 100–300 µg/kg BW, n = 75). Darting distance varied from 5 to 55 metres and detomidine was injected into rump. Induction times were not recorded for 10 reindeer, which were eliminated. Induction time defined was from drug injection to the moment the reindeer either laid down or became tractable

enough to be blind folded and forced down. First effects were noted during 3 to 5 minutes from drug injection, and the mean induction time was 8 minutes in semi-domesticated reindeer. Slightly longer times were measured in wild forest reindeer (5–6 and 8–10 minutes, respectively). There was no difference in the response time to the first effects of drug between males and females. First effects were stumbling, loss of alertness and hackneyed gait. There was no difference either in induction time between males and females. Reindeer that had been drugged laid usually in sternal secumbency. Their legs were usually pulled under them in normal lying posture. Recovery time begun 60–110 minutes after drug injection. Reindeer showed signs of awakening, characterized by feeble attempts to rise, vocalization and head movement. Detomidine was effective and safe for handling semi-domesticated and wild reindeer, but there was a rather great individual variation in reaction to detomidine. The analgesic effect produced by detomidine was similar to that seen with zylazine (Rompun). However, only small volumes were needed for a present range of body weights.

References:

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