

Immobilization of European Wild Hogs with Azaperone and Ketamine: An Alternative

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Abstract: Trapped European wild hogs (*Sus scrofa*) were immobilized with a combination of azaperone (AZ) and ketamine hydrochloride (KHCl). One capture dart containing AZ was followed in 4–26 minutes by an injection of KHCl with a hand-held syringe. It was our intent to inject each hog with 4.4 mg/kg of AZ and 6.6 mg/kg of KHCl. This drug combination was safe and effective. A mixture of KHCl and xylazine hydrochloride (XHCl) also was used. However, the KHCl-XHCl mixture required drug volumes >10 ml to achieve chemical restraint for hogs >65 kg. During the time required to deliver a second or third injection, trap related injuries increased. Also, multiple darting caused additional trauma to the hogs. The AZ-KHCl combination reduced trap related injuries by eliminating multiple darting necessary to immobilize hogs >65 kg.

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Several drugs have been used to immobilize European wild and feral hogs: Succinylcholine chloride (Zurowski and Sakowicz 1965, Matschke and Henry 1969, and Wood et al. 1977), Cap-Chur-Barb® (Henry and Matschke 1968), Cap-Chur-Gem® (Matschke and Henry 1969), Sernylan® (Henry and Matschke 1972), and a ketamine hydrochloride (KHCl) and xylazine hydrochloride (XHCl) mixture (Baber and Coblenz 1982). We initially chose KHCl and XHCl to immobilize European wild hogs because it is safe, effective, and easily obtained. However, in utilizing concentrations of commercial 100 mg/ml KHCl and XHCl, volumes >10cc are needed to immobilize hogs weighing over 65 kg. We experienced difficulty immobilizing large aggressive hogs resulting in increased numbers of dart wounds and facial injuries from fighting the trap.

An AZ (Stresnil®, Pitman-Moore, Inc., Washington Crossing, N.J.)-KHCl combination was recommended to reduce capture injuries (Ross Young, D.V.M., pers. commun.). Azaperone is a potent neuroleptic which produces a predictable

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consistent response in domestic pigs and is indicated for the control of aggressiveness when mixing or regrouping pigs. The effect lasts for 1 to several hours and the animal remains conscious, but is quiet and indifferent to the environment. There are no known contraindications to AZ. Domestic swine were given 44 mg/kg, and none died (Muir). This paper reports the use of an AZ-KHCl combination to immobilize European wild hogs in southern West Virginia.

Methods

Wild hogs were trapped in drop-door (Williamson and Pelton 1971) and root-door traps (Beldon and Frankenberger 1977) from February 1987 through April 1988. Each hog received 4.4 mg of AZ per estimated kg of body weight. AZ was administered in a 2-10 ml dart projected into the hip muscle by a powder-charged breech-loaded rifle (Palmer Chem. Equipment Co., Douglasville, Ga.). An intramuscular injection of 6.6 mg of KHCl per estimated kg of body weight was administered with a hand-held syringe, after subjectively determining the hog would not react violently.

A spring scale was used to determine the actual weight of each immobilized hog. Actual weight was used to calculate actual dosage. After processing, each immobilized hog was left at the trap site to recover. To complete processing (weighing, measuring, ear tagging, and some radio tagging), 3 hogs were given supplemental KHCl injections (4.29–7.14 mg/kg). The time hogs were immobile and could be handled safely was estimated. It was our intent to inject each hog with 4.4 mg/kg AZ and 6.6 mg/kg KHCl (Young pers. commun.). AZ was packaged in 20-ml vials, 40 mg/ml, and KHCl in 10-ml vials, 100 mg/ml.

Results and Discussion

Initially, 15 hogs were immobilized with a mixture of KHCl and XHCl (Baber and Coblenz 1982). Five of the 15 weighed 66–118 kg and 2 or more 2–10 ml darts were required to achieve chemical restraint. Hogs were enraged by multiple darting and remained agitated until overcome by the drug's effects.

Eighteen hogs (7 males and 11 females) were immobilized safely 27 different times with 2.22 to 5.62 mg/kg of AZ and 3.70 to 11.11 mg/kg of KHCl. Three hogs required 2 KHCl injections because their weights were underestimated by 13.6, 18.2, and 22.7 kg. However, immobilization was achieved on 2 hogs that were underestimated by 20.5 and 31.8 kg. There were 14 trials on 11 hogs weighing 66–113 kg.

The first effect of the AZ injection was a prominent reduction of aggressive behavior within 2 to 4 minutes. Within 4 to 19 minutes, hogs became lethargic and laid down or leaned against the side of the trap. They were not immobilized by AZ. KHCl was injected 4 to 26 minutes after the AZ injection. To facilitate KHCl injection, hogs could be coaxed to change locations in the trap by probing with a stick. Hogs that would not permit KHCl injection on the first attempt were allowed

additional time for AZ to take effect. Hogs were handled safely 1 to 19 minutes after KHCl injection. Most hogs were immobilized 30 to 60 minutes. In addition to reducing aggressive behavior, AZ minimized the adverse signs (poor muscle relaxation, convulsions, and excitement during recovery (Thurmond and Benson 1986) sometimes associated with KHCl.

Conclusions

Immobilization of European wild hogs with AZ and KHCl is safe and effective. Hogs 32–113 kg required only 1.2–10 ml dart injection, followed by KHCl injected with a hand-held syringe. The chance of injury produced by capture darts was reduced. Aggressiveness was reduced minimizing trap related injuries. The effective immobilization rate was 100%. For safe handling of hogs, we recommend 4.4 mg/kg of AZ followed in 20 to 30 minutes by 6.6 mg/kg of KHCl injected with a hand-held syringe.

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