ANESTHESIA, SEDATION AND CHEMICAL RESTRANT IN WILD AND DOMESTIC ANIMALS

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Introduction

The use and study of wild and domestic animals frequently involves physical handling and in some instances the performance of surgical or other painful procedures. With few exceptions the needs in domestic animals are basically for relief of pain and relaxation to allow comfort to the patient and convenience to the surgeon. Agents can be selected without much concern for excessive restraint of the animal before medication in most cases.

The preparation of the wild animal for some form of chemical restraint, sedation or anesthesia most often must be made without the benefit of a physical examination to determine the physiological condition or specific needs. In many cases the animal must receive the initial medication via propelled dart or other systems used from a point distant from the animal.

Since it is difficult to measure preanesthetic responses in wild animals, an attempt has been made to evaluate specific responses to certain medications in domestic animals and relate these to the gross responses seen in both domestic and wild animals.

Materials and Methods

The animals used in these experiments included white tailed deer, dogs, cats, horses, ponies and primates. Results of other investigators were incorporated in establishing guidelines for medications and dosages.

Arterial blood gas and pH measurements were made on an Instrumentation Labs Model No. 113 apparatus. E.C.G.'s were monitored with a Hewlett-Packard portable visocardette #500.

Results

Varying results have been reported on the use of chemical restraint in deer. Fisher reported using 4 to 7 mg. of succinylcholine in adult deer. Peterson used succinylcholine in deer at a rate of 0.2 mgm/kg body weight. Recovery required 30 to 60 minutes. Since our wildlife investigators had experienced considerable mortality with succinylcholine in deer, with evidence of myocardial damage in some sacrificed survivors, an attempt to use M99 (etorphine) was made. The initial tests were made using M99 (etorphine) alone, later a combination of M99 (etorphine and acepromazine) were used. In some 20 adult white-tailed deer a variety of results were observed. Two cases resulted in a very tranquil and analgesic state although the animals did not collapse until handled.

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