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ANAESTHESIA IN THE RIVER TURTLE (CHELONAIA)

A. A- AL – obidi

Department of surgery,College of veterinary medicine, university of Basrah, Basrah. Iraq.

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ABSTRACT

Surgical anesthesia for chelonia (turtle), weighting between 6-10 kg. Was a chieved with the injectable pentobarbital and ketamine hydrochloride. Induction of duration and recovery of individual turtles.

Limited data are available regarding dosages and responses for injectable anesthetics a many reptiles. The varied results using different dosage levels and routes of administration for pentobarbital and ketamine HCl.

The purpose of the present study was to report anaesthetic dosages and responses for turtles.

INTRODUCTION

There are thirteen families of chelonia, containing a round 244 species. Chelonia success is due to a combination of standard reptilian characteristics (Conservation of water and cleidotic egg) plus a rigid body wall or shell consisting of apper carapace and lower plastron. This obvious physical adaptation makes clinical examination difficult especially with larger and recalcitrant individuals. (1, 2.3).

Basic anatmy:

The chelonia have a standard body plan a few obvious to differences to other reptiles. The scapula (shoulder blade) has rotated around the thorax (chest) and lies in a ventral position, The ribs are uniquely modified to form bony plates that comprise the structure of the carapace and plastron.

There are four limbs, each covered in heavy scales. The head is retractable and the cervical vertebrae fuse into the carapacial shell. The tial is used to differentiate the sexes. It is invariably larger in the male with the cloacal orifice located from the tip (8).

The eyes are situated laterally on the head and are protected by a mucous membrane covered 3rd eyelid and tow eyelids, only the lower eyelids is mobile. No lachrymal during appears to be present therefore excess overflows from the lower lid:

The appendicular skeleton consists of: front – legs: humorous, radius, ulna, carpus and 5 digits ending in claws. Hind limb Femurs, tibia, fibula, tarsus digits and 4 claws. Chelonia have two ventral vena cavae with have an anastomosis roughly at the middle of the ablominal plate.

Chelonia are very tolerant of anoxia and can tolerate high lactic acid levels – Respiratory function in reptiles is controlled by po_2 temperature – Therefor maintaining reptiles in a high O_2.

Chelonia have a three chambered heart (two ativa, one ventricle). The ventricle functionally separates the pulmonary and systemic blood flows at systole.

MATERIALS AND METHODS

Turtles used in this study was part of the stock of rivers. The turtles were maintained in concrete tank. Surgical procedure were conducted in a open – air building.

Sodium peutobasbital 30 mg /kg B.W. was administered Iv through the dorsal cervical sinus to 6 turtles. The time need was 30 – 40 second for an approximate 10 – ml injection. But the best dosage of sodium pentobarbital is 8 –12 mg/ kg B.W. IV due to the induction at a bout 14 minute.

Ketamine HEL 40 mg/ kg B.W. IP was administered to 6 turtles weighting 6 – 10 kg each tow turtles injeetable via IP, IV, Im routes.

The induction time, the length of surgical anesthesia and recovery time was measures in all turtles. The time between administration of the anaesthetic and deep anesthesia. Deep or surgical anesthesia has no voluntary muscular response to surgical procedures.

RESULTS

The 3 turtles given sodium pentobarbital were anaesthetized at the rate of 10 – 26 mg/ kg of body weight, and 3 turtles approximately 10 mg / kg B.W. induced deep anesthesia, but initial doseges varied from it. Correlation between total anaesthetic administered and time of induction for those turtles in which dose lasted 40 – 60 inanities. Total recovery occurred within 4 – 6 hours. Routes and of administration for ketamine HCL varied among 6 turtles. For 4 of totally anesthesia was achieved, occurred within 2 – 10 minutes after final injection and total recovery occurred within 4 hours.

Two turtles indictable intravenous dose 19- 36 mg/kg B. W., other two turtles Im injectable 60 – 80 mg / kg B.W. and other two turtles give in dose 35 –70 mg/ kg B.W. in deep anesthesia. (All of the 6 turtles give ketamim but in varied routes).

The successful deep anesthesia at dose of routes of Indictable pentobarbital of ketamina as following.

Table 1: Parameter for drug used to anesthesia

No. of turtles	Drug	Dosage mg / kg	Ronte	Induction time
6	Sodium Pentobarbital	8 –12	IV	14 –100
6	Ketamine HCL	35 –70	IV	2 – 10

DISCUSSION

Results of table –1- indicated that sodium pentobarbital can be used as an effective anesthesa in large turtles species (1, 2). An initial dosage of 10 mg / kg B.W. Iv route is suggested but the disadvantage kept out of water for 24 hours untial recovery is complete and induction time may be extended up to 60 minutes it generally longer that for ketamine HCL (5).

But ketamine Hcl has a rapid induction time, short duration and rapid recovery. It appears surgical induction is often easier than Iv injectiom (3, 6).

The long period of recovery from anaesthisue due to very low metabolic rate in chelonia (4, 6, 7).

Ketamine is probably the anaesthetic agent of choice although in dose not produce muscle relaxation. It may be give in doses of 60 – 80 mg / kg B.W. into glutal muscle Recovery from a dose of 60 mg / kg B.W., ketamine take up 24 house.

تخدير السلحفاة النهرية

عبد الباري عباس ساهي
فرع الجراحة ،كلية الطب البيطري ،جامعة البصرة ، البصرة ، العراق

الخلاصة

تم في هذه الدراسة تخدير السلحفاة النهرية باستخدام نوعين من مواد التخدير (مجموعة املاح الباريجورت والكيتامين) كل على حدة، وملاحظة مدى سرعة احداث التخدير والدخول بطور التخدير الجراحي، فترة الأفاقة، اوزان السلاحف ٦ –١٠ كغم تم استخدام طرق إعطاء مختلفة، الكيتامين افضل مخدر مقارن مع الباربيجورت. الغرض من هذه الدراسة هو تسجيل الجرعة المناسبة ومدى الاستجابة للمخدر المستعمل.

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