

Throw Away Your Dex!!

A Polemic on Why Rehabilitators Should NOT Use Dexamethasone

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Let us (for a moment) be controversial, pedantic, and absolutist. There is no reason for 99.99 percent of wildlife rehabilitators to have the steroid drug, dexamethasone, on their shelves—NOT EVER!

Don't get us wrong, dexamethasone can be a superb drug. It is essential for medical doctors and veterinarians doing dexamethasone suppression tests for endocrine disease, certain cancer treatments, as a systemic anti-inflammatory, for thrombocytopenia, and several other purposes. But the vast majority of rehabilitators don't encounter these issues. Dexamethasone is a drug that is probably useless and may in fact be harmful, for the situation in which most rehabilitators want to use it—the treatment of head injuries.

Let's look at the literature in people medicine. In 1995, the Brain Trauma Foundation summarized the findings of eight major studies in the previous

twenty years. Basically, they found that patients did about as well over time when no steroids were used as when steroid were used. More recently, the 2001 CRASH (Corticosteroid Randomisation After Significant Head Injury) study summarized even more literature, and concluded that there is no statistical benefit to steroid use in head injuries. But because the topic is so controversial, they have undertaken a long-term, prospective study that will study the outcome of steroid use versus steroid non-use in over 20,000 human cases in more than 60 European hospitals over the next few years.

In the course of this, and other literature reviews, many authors have also noticed that people and animals receiving steroids for head injuries may have some negative outcomes. Chief of these are increased risks of infection and gastrointestinal (GI) bleeding.

Steroids are powerful drugs that have effects on many of the body's systems. Like many powerful drugs, they should be used with care. Undesirable effects of steroids can include:

- a. immunosuppression
- b. increased risk of infection when steroid use is continued
- c. gastrointestinal bleeding
- d. increases in blood glucose

e. in pregnancy, may affect fetal adrenocortical development.

Of course part of the problem is that we're probably oversimplifying things; all head injuries are not created equal. Nearly 100 years of studies on the use of steroids for head injury have shown no clear medical benefits and several distinct risks. We suspect that after the CRASH study is done, we'll find out that there may be certain head injuries in which steroids can have some benefit, but it will probably require that doctors have information from hospital tests like ICP, MRI, and CT scans to determine intracranial pressure, location of bleeding, extent of damage to the tissues of the brain, etc. Maybe steroids help with certain patterns of injuries and make others worse—we just can't know yet. And when will we have these sorts of data on our wildlife patients?

Are there situations in which rehabilitators should consider using steroids? Yes—for acute spinal cord trauma. And for that, there is one form of steroid that has been shown to have significant beneficial effects, and that drug is methylprednisolone. However, for this drug to be beneficial, it must be used very rapidly after the original injury. Zero to four

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hours is probably the only time this steroid will have any benefit. Eight or 10 or 24 hours after the injury is just too late for even this steroid to do any good. The nice thing about methylprednisolone is that it is rapidly metabolized away. If used just for a short period, it doesn't stick around long enough to cause immunosuppression or GI problems (unlike dexamethasone which has a much longer half-life and is thus more likely to cause problems).

So what should we do for head injuries? We want to help our head injury patients, but we also want to abide by the important medical dictum, "First, do no harm." Let us suggest three things:

1. Stop using steroids—they probably do no good and may do harm.

2. Do make sure that you're doing everything else you can to support the animal, including making sure the animal can breathe, providing extra oxygen, starting fluid therapy to keep blood volume up, reducing stress, and keeping the patient's head elevated.

3. Unless the animal is severely hypothermic, do not warm it up (no incubator or heating pads). Cooler than normal body temperatures may, in fact, be helpful.


There are more aggressive therapies for head injuries in both human and veterinary medicine. These include intravenous fluids, hypothermia, mannitol diuretics, drugs to control seizures, etc., but these are specialized techniques that should only be done under veterinary supervision. Newer modalities including the uses of progesterone, antioxidants, and neuroprotective agents like vitamin E, melatonin, magnesium chloride, and many others are all being actively studied.

Remember, not all veterinarians or medical doctors agree with

what we're saying. But take the time to do some reading yourself in either the medical or veterinary literature and I think you'll be convinced.

So help your patients, and save money at the same time—throw out your dex!!

FURTHER READING

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