

## **Anesthesia of the Rex Devon Cats: Attention, Careful!!!**

From the doctor of veterinary medicine Michel Houard

Since several Rex Devon have been victims in these past years of grave accidents due to anesthesia, in France as well as in the Netherlands, it seemed important to us to speak about it in our first newsletter ("Chat M'interex", nr. 1, July 1992), since every cat will be anesthetized at least once during its lifetime.

It is imperative to underscore that in no case the veterinarians who performed the anesthesia were accused and that these accidents apparently only happen in the Rex Devon and may be due to the fact that the Devon's carry the "spasticity" gene.

(\*1) Recent studies performed at the end of the 90's (*note by translator: that seems odd given that it says above that this is from a newsletter from July 1992*) show that we are dealing indeed with a gene very closely related to spasticity.

But it's best to leave the word to Dr. Houard:

"Regularly, we hear that the Rex Devon cats have certain incidents ("anesthesia, the intervention weakened them"), or anesthetic accidents ("he didn't tolerate the anesthesia or the intervention").

Anesthesia is a medical act which always has inherent risks, minimal in all animals in good health, but higher in the (\*2) Rex Devon even in perfect health due to frequent acute or sub acute accidents which always appear to have the same characteristic scenario.

The acute case happens at the moment when the cat awakens and manifests itself in convulsions, hyper-excitation, and subsequent very fast hyperglycemia and hypothermia. Death happens within a few hours.

The sub-acute case happens 24 to 48 hours after anesthesia. The most characteristic element is progressive, intense muscular pain which is accompanied by an increase in (\*3) creatinine phosphokinase (an enzyme which indicates muscular involvement and which can be multiplied by 100 in these cats). At the same time there is hypothermia, hypoglycemia, uremia and hepatic involvement.

It seems that the nature of anesthesia is important in the triggering and progression of the crisis:

- Accidents are particularly severe with the use of Ketamine and products of the same family
- Dutch veterinarians have noticed grave accidents with gas anesthetics (products and protocols were not specified). Today, we know that we are talking about halothane

On the other hand, pre-anesthetics don't seem to be able to interfere in the process: xylazine, atropine, (\*4) propionylpromazine have been used without change of frequency or gravity of the accidents.

The mechanism of these post-anesthetic crises has to my knowledge not yet been discovered. As far as I was able to get informed, all of the Rex Devon cats who have manifested such characteristic troubles during anesthesia, have a high probability of being carriers of the "spasticity gene"; it seems that this typical type of anesthetic accident is connected to the existence of this gene or one that is closely related which may explain the muscular spasms since "spasticity" is also a myopathy.

Anesthesia of the Rex Devon presents specific risks which need to be decreased by using an appropriate anesthetic protocol and by exercising an intense post-anesthetic supervision which would permit to intervene at the earliest moment possible."

These anesthetic precautions are needed for all cats of the Rex type: Devon, Cornish, German and Selkirk. They also apply to Sphynx cats that were crossed with the Rex Devon in the beginning of the breeding process by Dr. Hernandez at the end of the 1960s, in order to settle certain breed characteristics such as nudity.

Anesthetics formally banned for the Rex and the Sphynx are:

Dissociative anesthetics:

- ketamine
- imalgene (\*5)
- clorketam (\*6)
- zoletil (\*7)

Gas anesthetics:

- halothane

**Translation courtesy of Ingrid Straeter-Knowlen, DVM  
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**Notations** | added by Kay Marshall

1. Note from translator regarding date: Question: Could this have been a typo where the newsletter author meant the late 80's rather than the late 90's? OR, perhaps the publication (Chat M'interex", nr. 1, July 1992) that included Dr. Houard's article been placed in a later publication and referenced? More reason to try and locate Dr. Houard or the publishers of the Chat M'interex newsletter.

2. **Creatinine phosphokinase:** A chemical normally found in the muscle fibers that is released into the bloodstream when the muscles undergo damage and breakdown. Testing for it can prove the occurrence of a heart attack or other muscle damage. It used to be called creatine kinase.

*Reference: Answer.com | <http://www.answers.com/topic/creatinine-phosphokinase-in-medicine?cat=health>*

3. **Rex / Sphynx genetic link:** It has been theorized that Sphynx hairlessness might be produced by an allele of the same gene that produces the Devon Rex (re), with the Sphynx allele being incompletely dominant over the Devon allele and both recessive to the wild type. However a different genetic symbol (hr) is given to the Sphynx gene and it is more likely that these are different genes interacting with each other. Sphynx were at one time crossbred with Devon Rex, but unfortunately this led to the introduction of some genetic diseases and is now forbidden in most breed standards associations. Hereditary spasticity and Hypertrophic Cardiomyopathy (a genetic heart defect) were introduced by the Devon Rex breed.

*Reference: Wikipedia.org*

4. **Propionylpromazine:** (from Veterinarian Dictionary reference) A phenothiazine derivative used as a tranquilizer, usually in combination with methadone.

*Reference: Answers.com | <http://www.answers.com/topic/propionylpromazine-propiopromazine>*

5. **Imalgene:** Contains a Ketamine base. Used for Dogs, cats, horses, sheep, goats, cattle, wild animals. All species: analgesia and anesthesia. Containment, interventions at high risk and general anesthesia.

*Reference: <http://www.consultvet.net/index.php3>*

6. Trade name: **Clorketam Veterinary:** Ketamine Hydrochloride

*Reference: <http://drugs-about.com/drugs/clorketam-veterinary.html>*

7. **Zoletil:** (Zoletil-Virbac). This a fast-acting anesthetic which can be used in a wide range of species. It is a combination of two drugs - tiletamine (a ketamine-like drug) and zolazepam, which is closely related to diazepam.

*Reference: [http://www.adelaide.edu.au/ANZCCART/publications/fs\\_restraint.pdf](http://www.adelaide.edu.au/ANZCCART/publications/fs_restraint.pdf)*