ABOUT BRAVECTO AND FLURALANER (= the active ingredient)
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http://www.artgerecht-tier.de/kategorie/hunde/beitrag/bravecto.html

Conservative flea and tick control in the form of spot ons are apparently bored. An innovation must be found: The sensational chewable tablet for dogs against ectoparasites such as fleas and ticks - lasting toxic load of the dog guaranteed!
Why so cynical? Let's see more closely:
This veterinary medicinal products containing the active substance fluralaner the company Intervet Germany GmbH, a subsidiary of Schering-Plough Animal Health, kills fleas (Ctenocephalides felis) and ticks (Ixodes ricinus, Dermacentor reticulatus, D. variabilis) immediately and continued for 12 weeks; the brown dog tick (Rhipicephalus sanguineus) immediately and continued for 8 weeks. For optimum control of flea treatment therefore should be carried out every 3 months.

The brown dog tick is mainly widespread in southern Europe. Through introduction, it can also occur north of the Alps. She is endemic, however, only in heated premises such as apartments, shelters etc..

"Fantastic! Problem ticks and fleas is finally resolved, "Many will say a sigh of relief.
Caution: it is not quite so simple apparently.
Operation

Firstly acts fluralaner systemically against fleas and ticks. That is, the active substance is distributed over the gastric and intestinal mucosa and then through the bloodstream in the entire body of the dog. The parasites have come upon a blood meal with fluralaner in contact, ie sucking on host. Fleas are then sacrificed within 8 hours and ticks within 12 hours.

And here lies the problem. One does not reach what you want to achieve: During feeding the parasites on the host ". (...) A risk of transmission of diseases caused by parasites can not be excluded" This gives the manufacturer (www.msd-tiergesundheit.de/products /bravecto/bravecto.aspx). But that's what it should go yet.

Secondly Bravecto has no repellent, ie repellent effect. For this you would need a second drug, so another unnecessary toxic burden of the dog. You wonder once: As a veterinary medicinal product is lobgepriesen which has no defensive effect against fleas and ticks and thus offers no protection from transmission of infectious agents. Remedy would "protect" create probably the view of the pharmaceutical lobby vaccinations. These imply additional health burdens for the dog and reliable sources of income for veterinarians and pharmaceutical industries. Here apparently deliberately trust and

good faith of the farmers are exploited in order to gain a business advantage. A perfidious approach!

Third, the long interval effect of fluralaner based on certain pharmacokinetic properties (pharmacokinetics = totality of all processes experienced by a drug in the body):
strong enrichment preferably in the adipose tissue, followed by liver, kidney and muscle
relatively slow decrease in concentration in plasma (half-life 12 days)
The active substance remains thus far in the dog's body. Overweight or obese dogs are more at risk for toxic accumulation than normal weight dogs (ditto man).

If the application as recommended repeated every three months, it could possibly lead to cumulative effects. The body is the "stuff" Never going, liver and kidneys must work constantly at full speed. Hardly a chance to detox. Instead threaten longer-term liver and kidney damage with corresponding symptoms and symptoms.
In this sense, the dog is truly gone to the dogs!

Even a toxic load of the brain with fluralaner in dogs can not be ruled out clearly:
fluralaner has an inhibitory effect on the nervous system of fleas and ticks by blocking the nerve impulses to the cell membranes. The parasites are paralyzed and die from it.
Really only toxic for the parasites?
Specifically: fluralaner has an affinity for the so-called GABA (y-aminobutyric acid) - and glutamate receptors. By "controlling" of these receptors, the chloride channels open in the cell membranes of nerve and muscle cells. The chloride influx into the cell increases and the hyperpolarization of the cell membrane prevents excitation forwarding. This process involves all parts of the body (limbs, respiratory system, etc.).

However, the mentioned receptors exist just in the brain of the dog (and all other mammals). GABA receptors are widely distributed in the CNS (brain and spinal cord), the neurotransmitter GABA makes here about 30% of the amount of neurotransmitters! He is the most important inhibitory (inhibitory) neurotransmitter in humans.
An intact blood-brain barrier protects the central nervous system - and therefore also the GABA receptors - from toxic substances or compounds. Whether fluralaner the blood-brain barrier really can not overcome, however, is not entirely clear.

Anthelmintics (wormers) with avermectins as drug apparently operate on the same principle as fluralaner. They also inhibit the nervous system due to their affinity for GABA receptors.

Therefore, in the following some quotes on the effects of avermectins:
"In addition, the intact blood-brain barrier is in vertebrates hardly permeable to avermectins, but it comes nevertheless also on neurons of the mammalian brain to an increase GABA-ergic processes ..." said a dissertation at the University of Munich from 2011 (http : //edoc.ub.uni-muenchen.de/13502/1/Schnerr_Cornelia_U.pdf).

In plain English: Although an intact blood-brain barrier in the mammalian brain for avermectins - hardly! - Should be permeable, occur when administering this drug to enhanced responses to the GABA-specific neurons. Quite as the impermeable blood-brain barrier is then probably not! For example, birds (especially finches and budgerigars) react to this remedy with fatigue. For dogs with the so-called MDR1-defect small amounts can be deadly! http://www.pan-germany.org/deu/~news-1220.html

"Because GABA is also found in the brain of mammals which are binding to GABA receptors is also regarded as the cause of the toxic effects of avermectins ..." (http://borna-borreliose-herpes.de/allgemein/wurmkurenwirkstoffe.htm).
Avermectins are lipophilic (fat loving) compounds, therefore,
"... Can avermectins diffuse through the membranes of each intact blood-brain barrier." (Http://www.vetpharm.uzh.ch/reloader.htm?clinitox/toxdb/SWN_022.htm?clinitox/swn/toxiswn.htm)
Cell membranes are made of fatty molecules known mostly!
Risk of accumulation

It is interesting in this context, a publication on avermectins (www.pan-germany.org/deu/~news-1220.html) by Dr. Andreas Becker. He mentioned neurodegenerative changes in the stem and cerebellum of beagles in a 53-week trial with avermectin! Long-term damage can not therefore be ruled out. And neither for nor for avermectins isoxazolines (fluralaner), the "work" on the same pharmacokinetic principle. All statements regarding potential side effects of these drugs is based on shorter-term experiments presumably as said above. Thus, although the acute toxic exposure is detected, but not cumulative effects of the substances.
"It is true that from the Dutch toxicologist Henk Tennekes again called to mind Haber`sche rule: In cumulative or summation poisons the effect produced is the product of concentration and time, if not elimination or degradation of the drug occurs. Ie. If the amount of such a deadly poison is 365 grams per day, the death one year occurs as with a daily intake of 1 gram. The approval of the avermectin "Ivermectin" by the EMA (European Medicines Agency), only the acute toxicity was considered. In a 53-week trial in Beagle dogs with the avermectin "Eprinomectin" In 1994 neurodegenerative changes in the stem and cerebellum have been observed. "Http://www.pan-germany.org/deu/~news-1220.html
Ever the question arises why Bravecto is not as sold as an anthelmintic? Can make more profit with two separate, supposedly specifically acting antiparasitic?

A few words about the international significance of fluralaner.
Medications such as valdecoxib and parecoxib as selective Cyclooxigenasehemmer in nonsteroidal antiinflammatory drugs belong to the same drug class as fluralaner, namely the isoxazolines.
Valdecoxib is no longer admitted of 2005. Parecoxib was taken in Switzerland from safety concerns from the market, in the US this drug is not authorized. In Germany, however, parecoxib is still on the market. Every reader fancy himself his judgment ...

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More information about Bravecto: www.isbravectosafe.com