

Baycox for Treatment of Coccidia

Written by Lorraine Shelton
Sunday, 02 May 2010 18:52 -

Use of Baycox liquid or Marquis paste to control coccidiosis in catteries

by Lorraine Shelton and Della Hengel

Baycox (toltrazuril) is a new treatment that may actually cure coccidiosis, instead of just suppressing it. The drug is available in Canada and Australia, but not the US. Albon and Tribissen are used for years to control coccidia infection, but these drugs don't cure it and the animal may continue to shed spores (remain infectious to other animals). Marquis paste is made from a similar drug, ponazuril, which is a metabolite of toltrazuril.

Baycox may be obtained from Interpet: <http://www.interpet.biz/Baycox.html> or from Pet Supplies International: <http://www.psol.com.au/int/index.html>

Since the Baycox is a special order item, it's not shown on the PSI website. You need to email the owner (who incidentally is a vet): questions@psol.com.au (Geoff Turnbull). No prescription is needed. If you're in the US, the cost for 200 ml (the only size it comes in, original Bayer packaging -- he does NOT repackage) at today's exchange rate is under \$90. DO NOT use the 2.5% solution sold as a pigeon remedy, as it can be caustic to the mucus membranes of cats.

Do not use this drug in pregnant cats as the teratogenic effects of this drug has not been adequately researched as yet.

The dose of Baycox is 20 mg/kg (10 mg per pound). This is 0.2 ml per pound of cat when using the 5% suspension. In a published study, a single dose of Baycox cured coccidiosis in puppies, as long as adequate environmental clean-up is performed. However, I'd recommend repeating it weekly for a couple of weeks. Clean up of the environment is critical to get rid of coccidia. This drug works best when it is used at the age of 4-6 weeks to PREVENT coccidia infection in kittens.

An alternative to Baycox is the similar drug ponazuril, marketed as Marquis paste for horses. The dose is 20mg/kg once a day for 1-3 days. The paste contains 150mg ponazuril per gram of paste. The plunger is marked for horses weighing 600 - 1200 pounds. You want to take the amount for a 600# horse and dilute it to a total volume of 14 ml in something tasty. Dose at 0.1 ml per pound of cat. Discard the unused volume.

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Here is the journal abstract I posted to the Fanciershealth Yahoogroups list in 2001:
Toltrazuril treatment of cystoisosporosis in dogs under experimental and field conditions. A Dauschies, HC Mundt, V Letkova
Parasitology Research, 2000, Vol 86, Iss 10, pp 797-799

Coccidia of the genus *Cystoisospora* cause mild to severe diarrhoea in dogs. The effects of toltrazuril treatment on cystoisosporosis were studied under experimental and field conditions. Twenty-four puppies were experimentally infected each with 4×10^4 oocysts of the *Cystoisospora ohioensis* group. Three groups of six puppies were treated 3 dpi with 10, 20 or 30 mg/kg body weight of toltrazuril suspension (5%); the remaining six puppies served as non-treated controls. Toltrazuril suspension or microgranulate were given once in a dose of 10 or 20 mg/kg body weight, respectively, to naturally infected puppies in conventional dog breeding facilities, depending on the coproscopical evidence of infection. Oocyst excretion and clinical data were recorded.

Under experimental conditions, the non-treated puppies excreted oocysts beginning at 6 dpi and suffered from catarrhalic to haemorrhagic diarrhoea. On 12 dpi, four of six non-treated puppies died. Irrespective of the dose, toltrazuril treatment totally suppressed oocyst excretion and no diarrhoea or other signs of disease were observed in the treated groups. Natural *Cystoisospora* infections were regularly found during the 3rd or 4th week of age in dog breeding facilities although not always associated with diarrhoea. A single oral application of toltrazuril abrogated oocyst shedding and the treated puppies remained generally coproscopically negative during the following 2-4 weeks.

Cystoisospora is pathogenic for puppies and can induce severe disease. Natural infections are common in conventional dog breeding facilities. Toltrazuril treatment is suitable for controlling cystoisosporosis under experimental and field conditions. A single oral treatment for puppies in the 3rd/4th week of age is recommended.

Here is some information directly from Dr. Bruce Kilmer at Bayer Canada:

Thank you for your interest in Baycox. Unfortunately, Baycox isn't registered for cats and therefore I can't provide a package insert. On a second point, Baycox is not available in the US, except black market goods coming in by whomever. Bayer In Canada can not sell product into the US. Baycox is a triazine derivative. The drug active is toltrazuril, which has a cidal mode of action on protozoan.

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The toltrazuril will kill all single cell stages of coccidiosis. Once an animal has diarrhea and you can find oocysts on fecals, the drug can not penetrate the oocysts so technically it is too late to treat. In the actual clinical cases, treatment is still worthwhile to shorten the length and severity of the diarrhea as there is still development of the life cycle in the small intestine that will be controlled.

The idea is to dose the cat before there are clinical signs. For example, the normal situation would be a cattery having regular problems with coccidiosis in young kittens. The kittens normally would break with diarrhea at about 5 weeks of age. The treatment would be given around day 28, killing the early stages of the protozoa and preventing clinical disease. You will not have the history on a rescue cat so treatment would be best at the earliest hint of an outbreak and then repeat treatment in 7 days.

Baycox treatment will not cause sloughing of the intestinal epithelial cells. The coccidiosis does a fine job of that on its own. We have electron micrograph studies of sections of intestine 24 hours post treatment with Baycox. The intestinal cells remain intact and functional while the single cell stages of the cocci are dead, as evidenced by staining techniques. because Baycox is cidal, the kitten does not have to depend on its immune system to eliminate the cocci as what would occur with a static drug like sulfadimethoxine.

Remember that Baycox should be given during the preclinical stage. This is very difficult to judge as the kitten will be at a stage when it is infected but the cocci are only in the first stages of their life cycle. The intent is to kill the protozoa before there is damage to the villi to clear the infection. In this way, the kittens will not develop the normal clinical signs of diarrhea. If you can identify oocysts on fecal exam, the damage has already been done and the protozoa has completed its reproductive cycle. Drug can not penetrate the oocyst wall to kill this stage. Treatment at the first signs of a clinical case will still help to limit the severity and duration of the infection as the Baycox will kill the single cell stages that have not reproduced sexually yet.

Try to determine the usual age that you see outbreaks. For example, many catteries will see diarrhea sometime around day 35. The time to treat is therefore at day 28. Likely the kittens had an infective dose of oocysts by this stage but minimal damage has occurred. Treatment will eliminate the coccidiosis before there is damage and the kittens will not break with diarrhea. Studies in other species indicate that the animal will have developed immunity to subsequent exposure.

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The dose is 20 mg/kg by oral dosing.

Toltrazuril is quite lipid soluble so absorption and distribution into tissue is very good. Baycox has a unique mode of action and there is no reason to be concerned with an adverse reaction or a drug-drug reaction. We have never had an adverse reaction reported after millions of treatments, often concurrent with other medications.

I have never heard of any adverse reactions to treatment at this dose in puppies or kittens or on the repeat seven days later. As Baycox only has activity against protozoa, there is no effect on upset of intestinal flora and the formulation is very well tolerated. The only time I have heard of any reaction occurred when someone used the Baycox 2.5% Poultry Concentrate by direct oral dosing in 3 day old piglets. This formulation is designed to be diluted in the drinking water for poultry. To be soluble in water, the product undiluted is very alkaline, pH 11.4. Direct oral dosing of the undiluted product is very irritating to mucous membranes and will cause immediate vomiting. Make sure you are using the correct formulation.

Regards,
Bruce Kilmer DVM
Manager, Veterinary Affairs/Product Development Bayer Inc.