What are the best treatment options for coccidiosis in a shelter setting?

Treatment and prevention of coccidiosis in a shelter setting can be challenging. Dr. Yannessa shares the latest research-supported management protocols that a shelter can use to prevent infection with coccidia, treat infections that do arise, and limit the spread within the shelter.

Question:

Our rescue is a foster network and we have problems with coccidiosis in kittens several times each year. A shelter that helps us treats coccidiosis with ponazuril 23 mg/lb X 3 days. An information sheet on the sheltermedicine.com site additionally suggests treating prophylactically on intake. The vet we work with most often wants to treat coccidiosis with a 10 day or more course of trimethoprim/sulfa and only after a positive fecal test. (Albon does not seem effective here.) She is concerned about the safety of ponazuril.

Do the two treatments differ in safety? Should we try to convince our local vet to prescribe ponazuril for us to use for treatment and prophylactically? If so, what research can we direct her to that discusses the relative merits of the two treatments?

We adopted out 110 cats in 2016.

Answer:

Thank you for your question. Coccidiosis as I'm sure you're aware can be a challenging issue in kittens. Risk factors for coccidiosis include age (young kittens at least 2 weeks of age but typically less than 6 months[1]) stress (always a challenge in a shelter), and coinfection with other parasites.

We do recommend ponazuril as the preferred treatment of coccidia in kittens in a shelter. While Albon (sulfadimethoxine) is the only FDA approved drug, the recommended dosing schedule is to administer it for 5-21 days, which can be costly both monetarily and in staff time. Trimethoprim/sulfa has also been used successfully, but it is typically very unpalatable and the dosing schedule your veterinarian uses (10+ days) is longer than would be needed for treatment with ponazuril. There are also known adverse effects with TMS (rarely, acute hepatic necrosis and hypersensitivity reactions). Both of these medications are coccidiostatic rather than coccidiocidal as ponazuril is[2]. Use of a "cidal" treatment results in a shorter course of treatment and faster response. For these reasons we recommend the use of ponazuril for treatment of coccidia in kittens.

Ponazuril in kittens has been widely used by shelters without reported adverse effects at the most common dosages. A study in beagle puppies in 2007 found ponazuril to be effective at doses of 30 mg/kg and 50 mg/kg, and observed no adverse effects to administration[3]. Additionally, the Lloyd and Smith article, which tested single doses of ponazuril in 2-3 month old kittens and puppies also did not note any adverse effects. In their study, 84-93% of kittens were found to be shedding Isospora oocysts, but groups were divided randomly (independently of egg counts). The doses used in that widely cited paper were: 30 mg/kg, once and 15 mg/kg/day for 3 days, and all treatment groups in that study were found to have a rapid reduction in oocyst shedding as well a concurrent reduction in diarrhea and improvement in fecal consistency. Doses as high as 50 mg/kg q24h for 3 days have been tested[4].

When developing your treatment protocol there are a few considerations regarding who to treat and when. While it might be a reasonable approach to treat only those affected based on clinical signs plus a positive fecal float, there are some downsides to basing the treatment only on the fecal in shelter kittens in particular.

1. You need an experienced person reading the fecal, you need a fresh sample, and the kitten must be shedding eggs at the time the sample is taken.
2. Some animals can be 'silent shedders' meaning they do not show clinical signs of coccidiosis but they will continue to be sources of oocysts. Oocysts can contaminate the environment, leading to infection of other kittens. Oocysts can sporulate to the infective stage within 12-14 hours, so prompt removal of feces is also an important part of managing this disease. Once infective, oocysts are resistant to most disinfectants and can be very difficult to remove from the environment, so prevention of oocyst shedding is a key part of reducing infections acquired in shelter.
3. This parasite is common, with prevalence up to 36% reported. And when combined with stress and coinfection with other parasites it can lead to diarrhea, dehydration, inappetance and weight loss, there are cases in which preventative treatment is preferable. Many shelters are now using prophylactic treatment rather than testing and treating all animals in order to prevent disease in at-risk kittens[5,6].

Our recommendation for shelters who frequently see coccidia in kittens is to treat all kittens (and puppies if applicable) with ponazuril once upon intake, as early as 2-3 weeks of age, repeating at 7-14 days and then re-treating based on clinical signs and fecal exams if needed[7].

We hope you will share this with your veterinarian and we included some of our references if that is of assistance. The Lloyd article in particular has a good summary of effective use of ponazuril.

Thank you for your question and please let us know if you have any additional questions!

Sincerely,

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[1] Gates, & Nolan. (2009). Endoparasite prevalence and recurrence across different age groups of dogs and cats. *Veterinary Parasitology*, 166(1), 153-158.

[2] S. Lloyd. Activity of toltrazuril and diclazuril against *Isospora* species in kittens and puppies, *Vet Rec*, 148 (2001), pp. 500-511

[3] Charles, et al. Safety of 5% Ponazuril (Toltrazuril sulfone) Oral Suspension and Efficacy Against Naturally Acquired *Cytoisospora ohioensislike* infection in Beagle Puppies. *Parasitology Research*, August 2017 101(1). 137-144.

[4] Litser et. al. Use of ponazuril paste to treat coccidiosis in shelter-housed cats and dogs., Veterinary Parasitology, 202 (2014), pp. 319-325.

[5] A. Daugschies, H.C. Mundt, V. Letkova. Toltrazuril treatment of cystoisosporosis in dogs under experimental and field conditions, Parasitol Res, 86 (2000), pp. 797-799

[6] http://www.maddiesfund.org/assets/documents/Institute/Coccidia%20in%20a%20Shelter%20Setting%20Transcript.pdf

[7] Intestinal Parasite Control Guidelines information sheet