MARTIN GOLDSTEIN, D.V.M.

Heartworm

To judge by your local veterinarian's stern insistence on regular heartworm pills for your dog, you'd think we're in the midst of a brutal epidemic, leaving piles of the dead in its wake. I think there's an epidemic, too, but of a different sort: of disease-causing toxicity instilled in our pets by heartworm preventative pills.

Granted, heartworm is a serious condition. An infected mosquito bites your dog (cats are rarely affected), injecting microscopic worms that first hibernate, then gain access to his bloodstream. The worms find their way to the heart, where they grow to as long as twelve inches, constricting the heart's passages and causing symptoms that range from coughing to labored breathing to heart failure. If the image of giant worms literally blocking the life blood of your dog isn't horrifying enough—and it can seem more so when viewing a real heart preserved in a jar of formalin, on display in a veterinarian's office as a sales tactic for heartworm preventative—the fact that they spawn hundreds of thousands of baby larvae, called "microfilaria," which circulate through the bloodstream, is nothing short of grotesque.

A few caveats are in order, however. Only a small percentage of dogs who get heartworm die of it, especially if they're routinely tested twice yearly for early detection. Even in untreated dogs, after a period of uncomfortable symptoms, the adult worms die. The microfilaria do *not* grow into adult worms on their own. To reach the next stage in their life cycle, they have to be sucked back *out* of the body by another mosquito, and go through the other stages of their maturation process within the mosquito. Only when that mosquito alights again on a dog and bites it can the microfilaria reenter the bloodstream with the ability to grow into adults. The chances of a microfilaria-infected mosquito biting your dog the first time are slim. Of it happening to the same dog twice? *Very* slim. And after two decades of pervasive administration of heartworm pills in the U.S., the chances of your dog contracting heartworm in most parts of this country even a first time are slimmer still. Early in my career, I saw and treated hundreds of cases of heartworm disease, most with routine medication, yet witnessed only three deaths (the last was in 1979). By comparison, we're seeing cancer kill dogs on a daily basis. To my mind, the likelihood that toxicity from heartworm pills is contributing to the tremendous amount of immune suppression now occurring, especially in cases of liver disease and cancer, is far greater and more immediate than the threat of the disease they're meant to prevent.

The most common form of heartworm prevention is a monthly pill taken just before and during mosquito season. (Many veterinarians recommend giving it year-round, even in areas of the country that experience winter.) Its toxins—ivermectin, for example—sweep through the body, killing any microfilaria that have been introduced by mosquito bites in the previous month, and thus preventing the growth of adult worms. Some brands also contain other toxins to kill intestinal parasites. The other approach to treatment is with a daily dose of

the drug diethylcarbamazine, starting several weeks before mosquito season. The drugs called for in either course of treatment are, simply put, poisons. Unfortunately, while they kill off microfilaria, they have the toxic effects of poisons, and can be especially damaging to the liver. I've saved a 1987 product evaluation for diethylcarbamazine mixed with oxibendazole, a preventative also used for hookworm. The evaluation, published by the company itself in a medical journal, reported that of 2.5 million dogs given the stuff, the company received only 176 reports of problems, including cases of liver toxicity and fatalities. To me, 176 is too many. But also, how many more went unreported? The evaluation concludes, "Of course, not all incidences are reported to the manufacturer, so the true magnitude of occurrence is really unknown." The manufacturer would argue, no doubt, that many of the symptoms I've seen cannot be linked in any provable way to any of the heartworm preventatives. Perhaps—though the anecdotal evidence has long since persuaded me not to put dogs on the stuff. But I have seen one obvious, immediate effect of these once-a-month preventatives in case after case: when you give a dog that pill, over the next few days, wherever he urinates outside, his urine burns the grass. Permanently! In some cases, you can't grow grass there until you change the soil. What, I wonder, can it be doing internally to your dog in that time?

When the first daily preventatives came out, my brother and I witnessed evidence of hemorrhaging in the urine of several dogs put on them. We stopped the medication; the bleeding stopped. We started it up again; the bleeding resumed. When we reported this to the manufacturer, we were informed that the company was aware of the problem from other complaints. Aware—but not about to pull its product from the shelves. All we could do was to stop giving the medication ourselves to the dogs we treated. Since then, the company has changed the product, diminishing this side effect and bringing it into the realm of acceptability for use in areas of high heartworm incidence.

The dogs I treat from puppyhood receive no heartworm preventative pills. It may be said, of course, that I practice in an area where cases of heartworm are pretty infrequent. But while my clinic is in Westchester County, just north of New York City, my practice encompasses patients from around the country. In the last decade, 98 percent of my patients, on my recommendation, have not been given heartworm preventative. In that time, I've seen less than a handful of clinical cases. Two of them I treated herbally, starting with heart support supplements (a heart glandular, vitamin E, Co-Enzyme Q10) and regular doses of black walnut, an herb known to kill parasites. (It comes in a liquid extract form; I recommend putting a dropperful in the food or mouth at each meal.) The third I treated medically, with a new drug (Immiticide) reported to be a lot less toxic than intravenous arsenic, at a lower-than-recommended dosage. All three are clinically normal—no evidence of heartworm recurrence—years after treatment.