Evaluating Injection-Site Sarcomas

Feline injection-site sarcomas are among the most locally aggressive tumors in small animals. Radical en bloc surgical excision with wide margins is recommended for complete excision. CT and MRI are used to detect peritumoral lesions that could be neoplastic extensions of a primary tumor.

This prospective study compared CT angiography and MRI with microscopic findings for peritumoral lesions in 10 cats with injection-site sarcomas. Locations identified on imaging were marked on freshly excised specimens to determine agreement with microscopy. CT and MRI identified 87 peritumoral lesions of varying morphologies, with a median of 4 lesions per cat (range, 3-12). Of the lesions, 19.5% were neoplastic, 58.6% were nonneoplastic, and 21.8% were microscopically equivocal. Imaging characteristics were not specific to a microscopic category in 69% of peritumoral lesions. A peritumoral lesion was identified in the same location on both imaging modalities in 50 lesions. There was no significant difference in the number of peritumoral lesions identified on CT or MRI.

Commentary

Determination of accurate preoperative surgical margins can be challenging, particularly with locally aggressive tumors such as feline injection-site sarcomas. These can infiltrate beyond local gross margins and can be unpredictable. Although 87 imaging lesions were specifically evaluated microscopically from 10 cats, tumors were located in various anatomic locations with varying complexity; this may limit the study's statistical power. CT angiography and MRI detected many peritumoral angiography, although these were not predictive of neoplastic extension. However, no tumor cells were identified beyond peritumoral lesions noted on either imaging technique.—Jason Bleedorn DVM, MS, DACVS, University of Wisconsin–Madison

Source

HEARTGARD Plus Chewables

HEARTGARD Plus is recommended for dogs 6 weeks of age and older. For dogs over 100 lb use the appropriate combination of these chewables.

INDICATIONS: For use in dogs to prevent canine heartworm disease by eliminating the tissue stage of heartworm larvae (Dirofilaria immitis) for a month (30 days) after infection and for the treatment and control of ascarids (Toxocara canis, Toxascaris leonina) and hookworms (Ancylostoma caninum, Uncinaria stenocephala, Ancylostoma braziliense).

DOSEAGE: HEARTGARD Plus (ivermectin/pyrantel) should be administered orally at monthly intervals at the recommended minimum dose level of 67 mcg/kg of ivermectin per kilogram (2.7 mg/kg) and 0.2 mg of pyrantel per kilogram (2.7 mg/kg) of body weight. The recommended dosing schedule for prevention of canine heartworm disease and for the treatment and control of ascarids and hookworms is as follows:

<table>
<thead>
<tr>
<th>Dog Weight</th>
<th>Chewables Per Month</th>
<th>Ivermectin Content</th>
<th>Pyrantel Content</th>
<th>Color Coding or Foil Backing and Carton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 25 lb</td>
<td>1</td>
<td>68 mcg</td>
<td>114 mcg</td>
<td>Blue</td>
</tr>
<tr>
<td>26 to 50 lb</td>
<td>1</td>
<td>272 mcg</td>
<td>227 mcg</td>
<td>Brown</td>
</tr>
<tr>
<td>51 to 100 lb</td>
<td>1</td>
<td>57 mg</td>
<td></td>
<td>Green</td>
</tr>
</tbody>
</table>

HEARTGARD Plus is recommended for dogs 6 weeks of age and older.

For dogs over 100 lb use the appropriate combination of these chewables.

ADDITIONAL INFORMATION: Remove only one chewable at a time from the foil-backed blister card. Return the card with the remaining chewables in its box to protect the product from light. Because most dogs find HEARTGARD Plus palatable, the product can be offered to the dog by hand. Alternatively, it may be added intact to a small amount of food. The chewable should be administered in a manner that encourages the dog to chew, rather than to swallow without chewing. Chewables may be broken into pieces and fed to dogs that normally swallow treats whole.

Care should be taken that the dog consumes the complete dose, and treated animals should be observed for a few minutes after administration to ensure that the entire dose is not lost or rejected. If it is suspected that any of the dose has been lost, redosing is recommended.

HEARTGARD Plus should be given at monthly intervals during the period of the year when mosquitoes ( vectors), potentially carrying infective heartworm larvae, are active. The initial dose must be given within a month (30 days) after the dog’s first exposure to mosquitoes. The final dose must be given within a month (30 days) after the dog’s last exposure to mosquitoes.

When replacing another heartworm preventive product in a heartworm disease preventive program, the first dose of HEARTGARD Plus must be given within a month (30 days) of the last dose of the former medication. If the interval between doses exceeds a month (30 days), the efficacy of ivermectin can be reduced. Therefore, for optimal performance, the chewable must be given once a month on or about the same day of the month. If treatment is delayed, whether by a few days or many, immediate treatment with HEARTGARD Plus and resumption of the recommended dosing regimen will minimize the risk of development of adult heartworms.

Monthly treatment with HEARTGARD Plus also provides effective treatment and control of ascarids (T. canis, T. leonina) and hookworms (A. caninum, U. stenocephala, A. braziliense). Clients should be advised of measures to be taken to prevent reinfection with intestinal parasites.

Efficacy: HEARTGARD Plus Chewables, given orally using the recommended dose and regimen, are effective against the tissue larval stage of D. immitis for a month (30 days) after infection and, as a result, prevent the development of the adult stage. HEARTGARD Plus Chewables are also effective against canine ascariids (T. canis, T. leonina) and hookworms (A. caninum, U. stenocephala, A. braziliense).

Acceptability: In acceptability and field trials, HEARTGARD Plus was shown to be an acceptable oral dosage form that was consumed at first offering by the majority of dogs.

Precautions: All dogs should be tested for existing heartworm infection before starting treatment with HEARTGARD Plus which is not effective against adult D. immitis. Infected dogs must be treated to remove adult heartworms and microfilariae before initiating a program with HEARTGARD Plus.

While some microfilariae may be killed by the ivermectin in HEARTGARD Plus at the recommended dose level, HEARTGARD Plus is not effective for microfilariae clearance. A mild hypersensitivity-type reaction, presumably due to death or dying microfilariae and particularly involving a transient diarhea, has been observed in clinical trials with ivermectin alone after treatment of some dogs that have circulating microfilariae.

Keep this and all drugs out of the reach of children.

In case of ingestion by humans, clients should be advised to contact a physician immediately. Physicians may contact a Poison Control Center for advice concerning cases of ingestion by humans.

Store between 68°F - 77°F (20°C - 25°C). Excursions between 59°F - 86°F (15°C - 30°C) are permitted. Protect from freezing.

ADVERSE REACTIONS: In clinical field trials with HEARTGARD Plus, vomiting or diarrhea within 24 hours of dosing was rarely observed (less than 1% of administered doses). The following adverse reactions have been reported following the use of HEARTGARD: Depression/lethargy, vomiting, anorexia, diarrhea, mydriasis, ataxia, staggering, convulsions and hyperesthesia.

Safety: HEARTGARD Plus has been shown to be bioequivalent to HEARTGARD, with respect to the bioavailability of ivermectin. The dose regimens of HEARTGARD Plus and HEARTGARD are the same with regard to ivermectin (8 mcg/kg).

Studies with ivermectin indicate that certain dogs of the Collie breed are more sensitive to the effects of ivermectin administered at elevated dose levels (more than 16 times the target use level) than dogs of other breeds. At elevated doses, sensitive dogs showed adverse reactions which included mydriasis, depression, ataxia, tremors, drooling, paresis, recumbency, excitation, ataxia, coma and death. HEARTGARD demonstrated no signs of toxicity at 10 times the recommended dose (80 mcg/kg) in sensitive Collies. Results of these trials and bioequivalence studies, support the safety of HEARTGARD products in dogs, including Collies, when used as recommended.

HEARTGARD Plus has shown a wide margin of safety at the recommended dose level in dogs, including pregnant or breeding bitches, study dogs and puppies aged 6 or more weeks. In clinical trials, many commonly used flea collars, dips, shampoos, anthelmintics, antibiotics, vaccines and steroid preparations have been administered with HEARTGARD Plus in a heartworm disease prevention program.

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