



ONCOLOGY:

New Tumor-Reducing Drug – Masitinib – Used at MVS

What is it?

Masitinib is from a new class of drugs being utilized by veterinary oncologists in Europe and for individual patients in the United States. This targeted drug therapy was the first approved targeted therapy for veterinary patients. The excitement veterinary oncologists have for this medication is how similarly it parallels developing treatments for human oncology patients.

Action mechanism

Masitinib is a targeted therapy that functions as a receptor tyrosine kinase inhibitor. This small molecule drug inhibits cell signaling by blocking the transfer of phosphate groups at the cell membrane. Masitinib has antitumor properties by selectively inhibiting KIT (also known as stem cell factor) which is a receptor known to be mutated or overactive in many mast cell tumors. Masitinib has antiangiogenic properties through its inhibition of platelet derived growth factor receptor. Interestingly, Masitinib also targets Lyn and Fak, key components of the transduction pathway leading to IgE induced degranulation. This effect expands the possible utility of Masitinib to include atopic disease, an area that has recently completed a clinically successful phase III study.

Indications

Masitinib is indicated for the treatment of Patnaik grade II or III, recurrent or metastatic, cutaneous mast cell disease. In a trial of 202 dogs, fifty percent of the overall population treated with Masitinib had their measurable tumor decrease in size by fifty percent during the first six months. This benefit has been noted in patients that have experienced mutation of their KIT receptor as well as patients without the KIT mutation.

The antiangiogenic properties of Masitinib significantly increase the scope of tumors for which the drug can be potentially useful to include many forms of carcinoma and sarcoma as well as T cell lymphoma and oral melanoma. Masitinib has been used concurrently with a variety of standard chemotherapy protocols. While Masitinib has been approved for treatment of veterinary patients in Europe since 2008, FDA approval for Masitinib in the USA is pending. Masitinib can be used for individual patients in the United States through a compassionate use application which can be completed by their oncologist.

Side effects

Some dogs treated with Masitinib develop clinical signs similar to those associated with other chemotherapy drugs such as decreased appetite, lethargy or vomiting for a few days. Some dogs also develop myelosuppression which is monitored for by evaluating bloodwork during the initial phase of treatment. Fortunately, Masitinib appears to be well tolerated when used alone as well as when it is combined with standard chemotherapy protocols.

Administration

Masitinib is a tablet administered at home by owners daily for dogs or every other day for cats. Masitinib can be given with or without a meal, however, owners are discouraged from crushing or breaking tablets. If pets have urinary or fecal accidents in the home, owners should wear gloves to clean the area. Children should not come into contact with Masitinib.

Concurrent therapy

Masitinib has been administered concomitantly with other medications such as antimicrobials, H₂ receptor blockers, antihistamines, anti-emetics, non-steroidal anti-inflammatory drugs, and corticosteroids. However, prospective clinical trials about the interactions with each of these drugs have not been completed.
For more information, please refer to the following website: <http://www.ab-science.com/>

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Our Oncology Service sees patients at all three locations and is available for consultations Monday through Saturday. Please call the location nearest you.

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