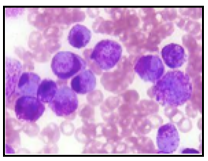
Understanding Mast Cell Tumors

Mast-cell tumors (MCTs) are the most common type of cancer in dogs. They are the "great pretenders" because they come in many different shapes, colors, textures and locations. They get larger or smaller for no apparent reason. They may be painless or they may hurt. Mast cells are normal parts of the immune system.



The dots you see in the illustration are granules full of histamine. Mast cells help keep our bodies safe when germs and viruses attack. They are best known for their ability to attach to an antibody called IgE. They release that histamine which causes an allergic reaction. That is why doctors give antihistamines to counteract allergies and allergic responses to things like bee stings. A mast-cell tumor is brimming with histamines. An overabundance of this substance can greatly damage a dog's system.

Like many cancers, the actual cause of MCTs is not known. There are probably many contributing factors, but we commonly see mast-cell tumors in dogs with a history of allergic skin disease. Eighty percent of MCTs in dogs are Grade 2 on a three-point scale with Grade 3 being the most aggressive. There is a good chance of achieving remission if Grade 2 tumors are excised/removed along with enough surrounding tissue. Usually a surgeon needs to remove about an inch and a half of normal tissue around the tumor. This can be a significant problem if the dog is small or if the tumor is located in a place without a lot of extra skin, such as the leg or head. Sometimes radiation is also needed. Where the tumor is located and how easily it can be surgically removed affect the outcome. The breed is also a determining factor. For example, pugs tend to have less aggressive tumors.

Palladia, the first chemotherapy drug approved by the FDA for dogs, recently became available. Palladia belongs to a new (to veterinarians) class of drugs called tyrosine kinase inhibitors. These drugs target cell mutations in aggressive forms of Grade 2 and Grade 3 mast-cell disease. However, less aggressive forms of mast-cell tumors respond to treatment with Palladia in some cases. This is good news for pups who have tumors in locations that don't lend themselves to surgical removal.

We all know that chemotherapy can be grueling. Our pets, especially older animals, do not understand why they must endure an unpleasant course of treatment. Many guardians agonize over making the choice to have a pet undergo chemotherapy in hopes of achieving remission and a little more time together. Our jobs as guardians and veterinarians must include finding ways to maintain a pet's quality of life. In people and pets, cancer writes many endings. We can only hope that researchers find drugs that minimize side effects and maximize life.