MELANOCYTIC TUMORS OF THE SKIN AND DIGITS

BASICS

OVERVIEW
• Melanocytes are pigment-producing cells, located in the skin; melanoblasts are the immature cells that develop or mature into melanocytes
• Melanin is the dark pigment produced by melanocytes; it is found in the skin and hair
• Melanocytic tumors are benign or cancerous (malignant) tumors, arising from melanocytes and melanoblasts (melanin-producing cells)
• “Melanoma” is another term used for tumors arising from melanocytes; melanoma frequently is used to refer to the cancerous (malignant) tumor

GENETICS
• Unknown

SIGNALMENT/DESCRIPTION of ANIMAL
Species
• Dogs and cats
Breed Predilections
• Dogs—Scottish terriers, Boston terriers, Airedale terriers, cocker spaniels, boxers, English springer spaniels, Irish setters, Irish terriers, chow chows, Chihuahuas, schnauzers, and Doberman pinschers
• Cats—none
Mean Age and Range
• Dogs—9 years of age
• Cats—8 to 14 years of age
Predominant Sex
• Dogs—males may be more likely to develop melanocytic tumors than females
• Cats—none

SIGNS/OBSERVED CHANGES in the ANIMAL
• Slow or rapidly growing mass
• Lameness, if digit is involved
• Pigmented or nonpigmented (known as “amelanotic”) mass, usually a single or solitary mass
• Develops anywhere, but may be more common on face, trunk, feet, and scrotum in dogs and head, digit, ear (pinna), and nose in cats
• Regional lymph nodes (that is, the lymph nodes in the area of the mass)—may be enlarged
• Advanced disease—may have trouble breathing or harsh lung sounds because of spread of the cancer into the lungs (known as “pulmonary metastasis”)

CAUSES
• Unknown

RISK FACTORS
• Unknown

TREATMENT

HEALTH CARE
• Inpatient, if undergoing surgery
• Fluid administration—indicated during surgery
• Melanoma of the digit—may require bandaging of the limb after surgery

ACTIVITY
• Depends on location of tumor
• Generally, restrict until sutures are removed

DIET
• Normal

SURGERY
• Wide surgical excision—treatment of choice
• Amputation of digit—if nail bed or digit affected

MEDICATIONS
Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive.

• Chemotherapy—recommended if surgical removal is incomplete; the tumor is not able to be removed surgically (known as a “nonresectable tumor”); or spread of the cancer (metastasis) has occurred
• Dacarbazine (DTIC) (dogs), doxorubicin, and carboplatin—reported to induce partial and complete remission in a small number of animals; may be drugs of choice
• Cimetidine—shown to be of some benefit in horses and people with malignant melanoma; believed to act as a biologic response modifier by reversing suppressor T-cell–mediated immune suppression; has not been evaluated for this purpose in dogs and cats
• Vaccination with xenogeneic human tyrosinase (a DNA vaccine) in dogs with advanced melanoma shows promise in experimental clinical trials

FOLLOW-UP CARE

PATIENT MONITORING
• Evaluate for evidence of recurrence and spread (metastasis)—1, 3, 6, 9, 12, 18, 21, and 24 months after surgery; if the owner believes the mass is returning; if the patient is otherwise not normal
• Chest X-rays—at the time of rechecks and periodically thereafter

EXPECTED COURSE AND PROGNOSIS
• Malignant melanoma may spread (metastasize) early in the course of the disease; thus prognosis is guarded
• Dogs—25% to 50% of melanomas reported to be cancer (malignant); melanomas on the digit, footpad, and scrotum have a greater likelihood of being malignant
• Mean survival with benign melanomas (dogs) of the skin is greater than 24 months
• Survival with malignant melanoma (dogs)—skin: 8 to 18 months; digit: 12 to 16.9 months
• Cats—35% to 50% of melanomas reported to be malignant
• Mean survival with melanoma of the skin or digit (cats)—not frequently reported; 4.5 months after surgery in one study of 57 cats

KEY POINTS
• Need for early surgical removal
• Do not take a “wait-and-see” approach
• Malignant melanoma may spread (metastasize) early in the course of the disease; thus prognosis is guarded