

# 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 Predispositions*

- 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

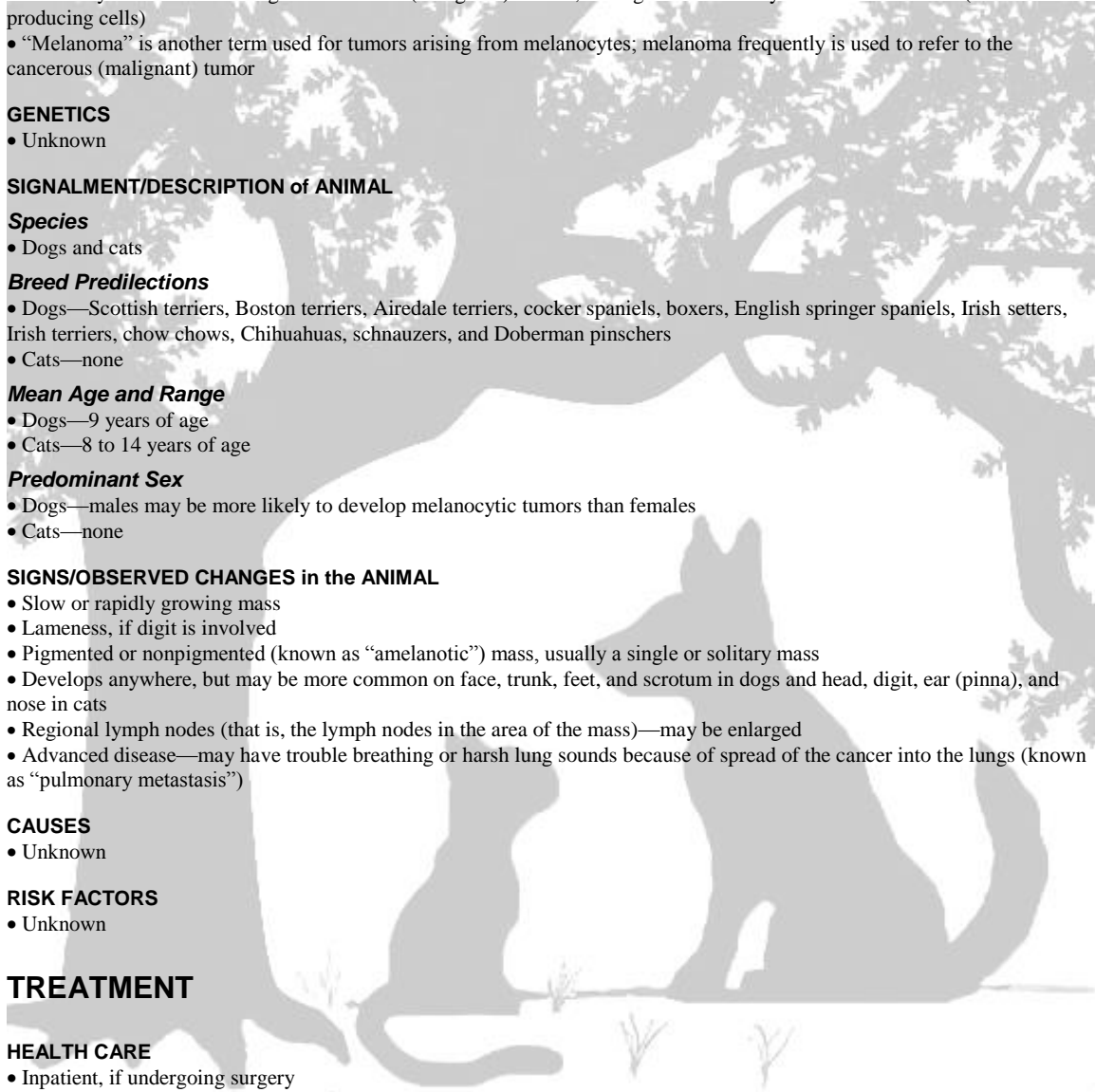
### ACTIVITY

- 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

