



# 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
- The skin is composed of two main layers, the epidermis (the outermost layer) and the dermis; the epidermis is further divided into several layers
- “Cutaneous” refers to the skin
- Melanocytic tumors are benign or cancerous (malignant) tumors, arising from melanocytes and melanoblasts (melanin-producing cells) in the epidermis (the outermost layer of the skin)
- “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 PET

#### Species

- Dogs
- Cats

#### Breed Predispositions

- Dogs—Scottish terriers, Boston terriers, Airedale terriers, cocker spaniels, boxers, English springer spaniels, Irish setters, Irish terriers, chow chows, Chihuahuas, schnauzers, Doberman pinschers, and retriever breeds
- Cats—none

#### Mean Age and Range

- Dogs—9 years of age
- Cats—10–12 years of age

#### Predominant Sex

- Dogs—males may be more likely to develop melanocytic tumors than females
- Cats—none

## **SIGNS/OBSERVED CHANGES IN THE PET**

- Slow or rapidly growing skin mass
- Lameness, if digit is involved
- Pigmented or non-pigmented (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
- Long-term (chronic) exposure to ultraviolet light is not a factor for melanocytic tumors of the skin (known as “cutaneous melanocytic tumors”) in pets

## **Treatment**

### **HEALTH CARE**

- Inpatient, if undergoing surgery unless for small tumors on the surface of the skin
- Fluid administration—indicated during anesthesia for surgery
- Melanoma of the digit—may require bandaging of the limb after surgery
- Pain management

### **ACTIVITY**

- Depends on location of tumor
- Generally, restrict until sutures are removed and all surgical incisions are healed

### **DIET**

- Normal

### **SURGERY**

- Wide surgical excision—treatment of choice
- Amputation of digit—if nail bed affected
- Surgical removal of the lymph node (known as “lymphadenectomy”) that drains the area where the tumor is located to evaluate spread of the cancer (known as “metastasis”)

## **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 for malignant melanoma, when surgical removal is incomplete; the tumor is not able to be removed surgically (known as a “non-resectable tumor”); or spread of the cancer (metastasis) has occurred
- Chemotherapy drugs with some reported effectiveness in treating malignant melanoma include carboplatin in dogs and cat; dacarbazine (DTIC) in dogs; doxorubicin, and lomustine; in general, response rate is below 30%
- Piroxicam may play a minor role in pain control and tumor control
- Use of multiple medications to control pain and discomfort is recommended

# Follow-Up Care

## PATIENT MONITORING

- Evaluate for evidence of recurrence at the site of the original tumor (known as “local recurrence”) and spread to areas near the original tumor (known as “regional metastasis”)—every 3 months after surgery; or earlier, if the owner believes the mass is returning or if the pet is otherwise not normal
- Chest x-rays (radiographs)—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—approximately 25% of melanocytic tumors of the skin (cutaneous melanocytic tumors) are reported to be cancer (malignant); melanomas on the digit, footpad, scrotum, and mucocutaneous junctions (areas where skin and moist tissues of the body come together; for example, the lips) have a greater likelihood of being malignant
- Mean survival with benign melanomas (dogs) of the skin is greater than 24 months
- Survival with malignant cutaneous or digit melanoma (dogs)— 10–12 months Breed differences in prognosis have been suggested in some studies—majority of melanomas of the skin (cutaneous melanomas) in Doberman pinschers and miniature schnauzers behave in a benign fashion; majority of cutaneous melanomas in miniature poodles behave in a malignant fashion
- Cats—35–50% 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
- Follow-up chemotherapy and clinical evaluation (including chest x-rays [radiographs] and other imaging techniques) is recommended for pets with malignant melanoma

# Notes

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