

SQUAMOUS CELL CARCINOMA OF THE SKIN

(A TYPE OF SKIN CANCER)

BASICS

OVERVIEW

- The “squamous epithelium” is the top layer of the skin, which is composed of flat, scale-like cells
- Squamous cell carcinoma is a cancer (malignant tumor) of squamous epithelium of the skin
- Bowen’s disease (cats)—multiple cancerous skin lesions, involving pigmented skin in areas with hair

GENETICS

- Unknown

SIGNALMENT/DESCRIPTION of ANIMAL

Species

- Dogs and cats

Breed Predislection

- Cats—none reported; patients often have light or unpigmented skin
- Dogs—Scottish terriers, Pekingese, boxers, poodles, Norwegian elkhounds, Dalmatians, beagles, whippets, and white English bull terriers may be more likely than other dog breeds to develop squamous cell carcinoma of the skin; large-breed dogs with black skin and hair coats may be more likely to develop squamous cell carcinoma involving the digits

Mean Age and Range

- Dogs—9 years of age
- Cats—9 to 12.4 years of age

SIGNS/OBSERVED CHANGES in the ANIMAL

- Dried discharge on the surface of a skin lesion (known as a “crust”); superficial loss of tissue on the surface of the skin, frequently with inflammation (known as an “ulcer”); or mass that may have been present for months and unresponsive to conservative treatment
- Bowen’s disease (cats)—multiple cancerous skin lesions, involving pigmented skin in areas with hair; skin becomes pigmented; ulcer forms in the center; followed by a painful scabby lesion that may expand peripherally
- Lips, nose, and ear (pinna) involvement—may start out as a shallow crusting lesion that progresses to a deep ulcer
- Facial skin involvement (cats)
- Nail-bed involvement (dogs)

Physical Examination Findings

- Rapidly growing lesion (known as a “proliferative lesion”) or lesions with loss of surface tissue (erosive lesions)
- Most common sites—cats: the tough, hairless skin of the nose (known as the “nasal planum”), eyelids, lips, and ear (pinna); dogs: toes, scrotum, nose, legs, and anus
- Skin on the flank and/or abdomen may be involved
- Bowen’s disease (cats)—may note 2 to more than 30 cancerous lesions on the head, digits, neck, chest, shoulders, and lower abdomen; hair in the lesion pulls out easily; crusts (dried discharge) cling to the hairs

CAUSES

- Unknown
- Exposure to ultraviolet irradiation

RISK FACTORS

- Sunny climates and high altitudes (high ultraviolet light exposure)
- Prolonged exposure to ultraviolet light
- Light or nonpigmented skin
- Previous thermal injury—burn scar

TREATMENT

HEALTH CARE

- Invasive tumors are tumors that extend into deeper tissues (that is, they involve more than the surface of the skin)—inpatient; require aggressive surgical excision or radiation therapy
- Superficial tumors—surgical removal; freezing the tissue to destroy it (known as “cryosurgery”); using light energy to destroy tissue (known as “photodynamic therapy”); or radiation treatment
- Topical synthetic retinoids—retinoids are chemicals with vitamin A activity; may be useful for early superficial lesions

ACTIVITY

- Dictated by the location of the tumor and the type of treatment
- Generally limited activity, until sutures are removed, if surgery has been done

DIET

- Normal
- Feeding tube may be necessary with surgical removal of cancer involving the tough, hairless skin of the nose (nasal planum)

SURGERY

- Wide surgical excision (that is, surgically removing the tumor and wide borders of apparently normal tissue)—treatment of choice; skin flaps and body wall reconstruction sometimes required
- Digit involvement—amputation
- Ear (pinna) involvement—may require partial or complete surgical removal of the ear
- Tumors that extend into deeper tissues of the nostrils—surgical removal of the tough, hairless skin of the nose (nasal planum) is recommended
- Radiation therapy—recommended for inoperable tumors (that is, tumors that cannot be removed surgically) or in addition to surgery

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 in cases with surgery in which cancer or cancer cells remain (known as “incomplete surgical excision”); with inoperable tumors (that is, tumors that cannot be removed surgically); and with spread of the cancer to other parts of the body (known as “metastasis”)—cisplatin (dogs), carboplatin, and mitoxantrone—reported to induce partial and complete remission; generally remission is of short duration
- Topical synthetic retinoids—retinoids are chemicals with vitamin A activity; may be useful for early superficial lesions

FOLLOW-UP CARE

PATIENT MONITORING

- Physical examination and X-rays—1, 3, 6, 9, 12, 18, 21, and 24 months after treatment or if the owner thinks the tumor is recurring
- Chest X-rays at each recheck examination to evaluate possible spread of the cancer (metastasis) into the lungs; abdominal X-rays or ultrasound, determined by location of the cancer

PREVENTIONS AND AVOIDANCE

- Limit sun exposure, especially between the hours of 10:00 a.m. and 2:00 p.m.
- Yearly tattoos on nonpigmented areas may be helpful
- Sunscreens—usually licked off by the patient; may help in some areas (such as the ear [pinna])

EXPECTED COURSE AND PROGNOSIS

- Prognosis—good with superficial lesions that receive appropriate treatment; guarded with invasive tumors that extend into deeper tissues (that is, they involve more than the surface of the skin) and those involving the nail bed or digit

KEY POINTS

- Early diagnosis and treatment for squamous cell carcinoma of the skin is important
- Risk factors associated with the development of the tumor include sunny climates and high altitudes (high ultraviolet light exposure)
- Limit sun exposure, especially between the hours of 10:00 a.m. and 2:00 p.m.
- Prognosis—good with superficial lesions that receive appropriate treatment; guarded with invasive tumors that extend into deeper tissues (that is, they involve more than the surface of the skin) and those involving the nail bed or digit