Infundibular Keratinizing Acanthoma

DEFINITION

Infundibular keratinizing acanthomas (keratoacanthomas or intracutaneous cornifying epitheliomas) are benign nodular neoplasms of the skin of dogs.

ETIOLOGY AND PATHOGENESIS

The neoplasm evolves from the epithelium of the infundibulum or isthumus of the hair follicle.

The central portion of the tumor is filled with keratin.

CLINICAL FEATURES

The incidence of infundibular keratinizing acanthomas is higher in pure-bred dogs and the Norwegian Elkhound is particularly predisposed. Other breeds at risk include Lhasa Apsos, Pekingese, Yorkshire Terriers, and German Shepherd Dogs. The median age of onset has been reported to be less than 5 years in one study while in another study it was 7 years. Neoplasms generally appear as wellcircumscribed dermal or subcutaneous masses ranging is size from 0.5-4.0 cm (0.2-1.6 in) in diameter with a pore that opens to the skin surface. Digital pressure on the mass may cause the expulsion of white to gray keratin debris through the pore. A keratinized plug may protrude from the pore in some cases and, if large, it may appear as a cutaneous horn. Occasionally, neoplasms will be found entirely in the dermis or subcutaneous tissue with no communication to the skin surface. Lesions may appear inflamed if the wall becomes disrupted, allowing keratin into the surrounding tissue, where it evokes a foreign body reaction. Lesions are usually solitary, but may be generalized in the



Norwegian Elkhound and have been reported to be multiple in Keeshounds, German Shepherd Dogs, and Old English Sheepdogs.

DIFFERENTIAL DIAGNOSES

- Follicular and other cysts
- Cutaneous horn
- Foreign body reaction
- Sterile nodular panniculitis (inflammation of fat)
- Deep mycotic infection
- Cuterebra spp. infestation
- Sterile nodular granuloma or pyogranuloma
- · Bacterial granuloma
- Other cutaneous tumors

DIAGNOSTIC TESTS

Excision biopsy with subsequent histolopathologic examination.

MANAGEMENT

Surgical excision is the treatment of choice for solitary lesions. Surgical removal of multiple lesions is often not satisfactory as new lesions will still continue to develop.



Topical and/or systemic antimicrobials may be necessary if lesions become secondarily infected. Retinoids, such as isotretinoin and acitretin, have been helpful in the treatment of multiple lesions in some dogs. These drugs tend to prevent development of new lesions and result in regression of small lesions, but often have little effect on larger lesions. Larger lesions may be pretreated with cryotherapy prior to retinoid therapy as this will often improve overall results. Clinical side-effects of retinoids include Inflammation of the eyes hyperactivity, itching, foot and mucocutaneous junction redness of tissues, stiffness, vomiting, diarrhea, and keratoconjunctivitis. Laboratory abnormalities include hypertriglyceridemia, hypercholesterolemia, and increased levels of alanine aminotransferase, aspartate aminotransferase, and alkaline phosphatase. Pretreatment measurements of tear production, hemogram, chemistry profile, and urinalysis are recommended and should be repeated after 1–2 months. Further monitoring is then performed as necessary. Generally, the clinical and laboratory side-effects are self-limiting with discontinuation or decrease in dose of the drug. In addition, it is extremely important to remember that all retinoids can cause birth defects.

KEY POINTS

• May be difficult to deal with as they can be removed surgically but new tumors will continue to develop.