7.10: Dermal Adnexa - Epitrichial (Apocrine) Glands and Eccrine Glands

Epitrichial glands and eccrine glands are coiled tubular glands. Epitrichial glands secrete via apocrine secretion in which small portions of membrane surrounding cytoplasmic contents are actively broken off and secreted into the gland lumen. Eccrine glands secrete via merocrine secretion, in which secretion is by exocytosis, and secrete directly onto the surface of the skin. These apocrine glands empty into the hair follicle (epitrichial glands) or onto the skin surface (eccrine glands).

Apocrine glands are widely distributed in dogs and cats, always associated with haired skin. Eccrine sweat glands, however, are present primarily in the non-haired skin of the footpads and nose.

Specialized apocrine glands by location

Anal sac glands – Perineum

The anal sacs are paired saccules that are located deep to the perineum and immediately ventrolateral to the rectum in carnivores (cats and dogs). The anal sacs have ducts that empty directly into the terminal rectum. Anal sacs are lined by a thin layer of keratinizing stratified squamous epithelium and surrounded by skeletal muscle. These structures serve to receive and excrete the secretions of specialized glands, called apocrine glands of the anal sac (anal sac glands) that line the wall of the anal sac. Although histologically identical to apocrine glands of the skin, the anal sac glands are functionally distinct, and produce an odiferous secretion that likely serves in olfactory communication (territory, etc.).

The anal sacs and their glands are of significant clinical importance. Apocrine gland adenocarcinomas of the anal sac are common and highly malignant tumors in dogs developing from these anal sac glands. Additionally, inflammation and impaction of the anal sacs are common clinical diseases.
Glands of Moll – Eyelash

Glands of Moll are specialized apocrine glands that are associated with eyelashes. The Glands of Moll are histologically identical to apocrine glands of the skin.

Ceruminous glands – External ear canal

The ceruminous glands are modified apocrine glands throughout the skin of the external ear canal. These glands are histologically identical to apocrine glands of the skin elsewhere. The ceruminous glands contribute to cerumen, a waxy product composed of the combined secretions of ceruminous glands and sebaceous glands of the external ear canal.

An interactive or media element has been excluded from this version of the text. You can view it online here: https://ohiostate.pressbooks.pub/vethisto/?p=196

**FIGURE(S):** Apocrine Type Glands