Papillary Apocrine Cystadenoma of the External Auditory Canal: A Case Report and Review of the Literature

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Introduction

The outer one-third of the external auditory canal is cartilaginous and contains numerous structures. In this region, sebaceous glands, hair follicles and cerumen-producing apocrine glands are found. The medial two-thirds of the external auditory canal is cartilaginous and contains thin epithelium that is affixed to the bony periosteum. This region of the external canal is devoid of glands and hair follicles, and the epithelium is contiguous with the tympanic membrane.

The skin of the lateral external canal contains the epidermis, dermis, and subcutaneous tissue. The epidermis is stratified squamous epithelium that forms a protective barrier. Within the dermis, nerve fibers, blood vessels, and adnexal structures are found. (See Figure 1) The associated tissue surrounding a hair follicle is known as a pilosebaceous unit, which is comprised of both the hair follicle and sebaceous gland. Sebaceous glands are responsible for producing sebum. Apocrine glands, found external ear canal, are responsible for producing cerumen. Other locations for apocrine glands include the eyelid (Moll’s gland) and axilla. These glands are small during childhood, but become more active following puberty.

Eccrine glands are not extensively found in the external auditory canal. These glands are responsible for regulating body temperature throughout the body. In the external ear canal, they are thought to provide a protective function. Neoplasms of any of the adnexal structures of the skin are possible.

Case Review

A 68 year old female with history of right sided aural fullness was noted to have a mass located in the lateral external auditory canal. It was flesh colored in appearance and caused a near-total obstruction of the external meatus. The tympanic membrane was visualized beyond the mass and was normal in appearance. Facial strength was intact bilaterally.

An audiogram demonstrated high frequency sensorineural hearing loss without conductive component. A CT scan was obtained that demonstrated a right-sided external auditory canal mass with dimensions 1.1x 1.2x 1.8cm in size (See Figures 2 and 3). The mass did not change following administration of antibiotics. Patient then underwent surgical excision. Intraoperatively, the mass was noted to be cystic in nature with a clear fluid. Final pathology demonstrated papillary apocrine cystadenoma. (See Figure 4a/b) No re-growth present at nine months postoperatively.

Tumors with Apocrine Differentiation

Apocrine Cystadenoma/ Hidroadenoma
- Caused by adenomatous cystic proliferation of apocrine glands (Not a retention cyst)
- Affects adults, no sex predominance
- Common sites include eye, face, ears, scalp, chest and shoulders
- Clinical features: gray bluish cyst with smooth walls, dome shape with clear or milky fluid
- Histologic findings include papillary projections into a cyst cavity

Moll Gland Cyst
- Also referred to as apocrine hidrocystoma of the eyelid
- Caused by obstruction of the apocrine sweat gland apparatus
- Affects adults, no gender or racial differences in etiology
- Physical Exam: solitary papule, flesh colored, typically near medial canthus, multiple
- Clinical history: slow growing mass, rarely recur following complete excision

Papillary Syringocystadenoma
- Typically affects children in puberty
- Physical Exam: verrucous, skin-colored papules on face, scalp, or ears
- Can develop malignant transformation

Hidroadenoma Papilliferum
- Typically affects Caucasian women
- Common Sites: Anogential region, head and neck
- Clinical history-slow growing mass
- Physical Exam: rounded papule 1-40mm in size, may ulcerate

Conclusions

Adnexal structures of the skin may develop into benign neoplasms.

Typical presentation of adnexal tumors with apocrine differentiation is that of a cystic, well rounded mass in the skin, most commonly head and neck region.

Clinical behavior is a slow growing mass that does not recur following complete excision.

References