A Review of Common Dermatologic Disorders of the External Ear

DOI: 10.3766/jaaa.19.3.6

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Abstract
Skin disorders of the external ear are common. Although audiologists will not necessarily treat these conditions, it is important for them to be aware of these disorders and refer patients to a specialist in some instances. This report summarizes eight of the most commonly encountered skin conditions with an emphasis on recognition and appropriate referral. The cutaneous disorders of the external ear discussed in the article are divided into benign, premalignant, and malignant groups.

Key Words: Dermatologic conditions, external ear

Abbreviations: AK = actinic keratosis; BCC = basal cell carcinoma; CNHC = chondrodermatitis nodularis helicus chronicus; SCC = squamous cell carcinoma; SD = seborrheic dermatitis; SK = seborrheic keratosis

Sumario
Los trastornos de la piel en el oído externo son comunes. Aunque los audiólogos no necesariamente tratan estas condiciones, es importante que sean conscientes de estos problemas para referir el paciente a un especialista en algunos casos. Este reporte resume ocho de las condiciones de piel más comúnmente descritas, con un énfasis en su reconocimiento y en una referencia apropiada. Los trastornos cutáneos del oído externo discutidos en este artículo se dividen en benignos, pre-malignos y malignos

Palabras Clave: Condiciones dermatológicas, oído externo

Abreviaturas: AK = queratosis actínica; BCC = carcinoma basocelular; CNHC = chondrodermatitis nodularis helicus chronicus; SCC = carcinoma epidermoide; SD = dermatitis seborreica; SK = queratosis seborreica
Cutaneous disorders of the external ear are often overlooked or disregarded by audiologists and otolaryngologists alike. There is a tendency to focus on the ear canal, tympanic membrane, and middle ear space such that an obvious auricular skin condition or lesion can go unnoticed. Other times the lesion is seen, acknowledged, and then ignored. Several attitudes may be responsible for this inattention. The professional may be concentrating only on auditory complaints or may feel that dermatologic disorders are not in the audiologist’s realm of concern. Health care professionals, however, are responsible for alerting patients to potential health problems even when they do not fall into their scope of expertise. Although one may not be trained in diagnosing and treating these dermatologic processes, there clearly is an expectation that anyone in hearing health care should be able to recognize that a lesion exists, inform the patient of the concern, and either refer the patient directly to a specialist or recommend the patient have the skin lesion evaluated by a primary care physician.

This article briefly reviews eight common cutaneous disorders of the external ear for the purpose of allowing the reader to become more aware of their presence and enable appropriate referral decision making. The disorders have been divided into benign, premalignant, and malignant groups.

**BENIGN CONDITIONS**

**Seborrheic Keratosis**

Seborrheic keratoses (SKs) are extremely common, benign epithelial growths. They initially present in middle age and often increase in number with time. Most elderly patients will have several of these lesions.

SKs can vary in appearance but typically are superficial, well-demarcated, warty or greasy papules or plaques (elevated skin lesions less than 0.5 cm in diameter or greater than 0.5 cm in diameter, respectively) that have a “pasted on” appearance. Color can range from flesh colored to very darkly pigmented. A typical SK is shown in Figure 1. One can often see keratin-filled pits within the lesions themselves. Patients will often report that they “crumble off” with accidental or intentional trauma. Occasionally they can become irritated or inflamed and cause tenderness or itching, but for the most part they are completely asymptomatic.

SKs can be found almost anywhere on the body, with the exception of the palms and soles. They can be frequently mistaken for melanomas or other worrisome skin lesions to the untrained eye. Even dermatologists will, on occasion, biopsy an SK to rule out a melanoma. SKs are typically diagnosed by visual inspection, and patients are reassured they are benign. However, if there is any doubt as to the nature of a pigmented lesion, a simple biopsy should be done. If patients find their appearance objectionable from a cosmetic standpoint, treatment options include cryotherapy with liquid nitrogen or curettage.

**Seborrheic Dermatitis**

Seborrheic dermatitis (SD) is a chronic inflammatory condition that primarily affects regions of the body where sebaceous glands are numerous, such as the periauricular area, nasolabial folds, chest, and scalp. The exact underlying etiology has been a subject of debate, but it is widely accepted that the yeast *Pityrosporum ovale* plays a key role. It is a common problem, affecting 3–5 percent of the general population (Lookingbill and Marks, 2000).

Clinically, SD can sometimes be difficult to distinguish from psoriasis. In general, SD manifests as bilateral, symmetric patches (flat skin lesions greater than 0.5 cm in diameter) with indistinct margins, mild to moderate erythema, and a yellowish, greasy scale. A typical presentation of SD is shown in Figure 2. In the vast majority of patients, the external ears are involved. Classically, the skin of the postauricular region and conchal bowls show signs of the disease. Other areas of involvement can usually be elicited by history or on physical exam, including the scalp, eyebrows, eyelids, nasolabial creases, and chest. Patients may complain of mild to moderate pruritus and almost uniformly will note persistent scaling.

Therapy is primarily targeted at eliminating the yeast *Pityrosporum ovale*. Patients need to be made aware that therapies do not “cure” the condition but serve only to control their symptoms. Shampoos containing pyrithione zinc (e.g., Head & Shoulders), selenium sulfide (e.g., Selsun
Blue), or ketoconazole (e.g., Nizoral) are the cornerstone of management because scalp involvement is almost universal. These are all available over the counter and well tolerated. Patients are instructed to use these shampoos on the posterior aspect and inside of the ears while showering. If symptoms persist, topical 2 percent ketoconazole cream is prescribed to be applied to the ears daily or as needed to keep the condition in check. Shampoos containing prescription-strength selenium sulfide (2.5%) and ketoconazole (2%) are also available for more stubborn cases. Topical steroid creams, ointments, or solutions can be used in and around the ears, but high-potency steroids should be avoided, and, in general, steroids should not be the primary means of treatment.

Chondrodermatitis Nodularis Helicus Chronicus

Chondrodermatitis nodularis helicus chronicus (CNHC) is an inflammatory lesion found primarily on the free edge of the helical rim. It is typically a single, tender, firm, red, 3–10 mm eroded nodule covered with an adherent scale, as shown in Figure 3. The cause is unknown but is likely multifactorial. Chronic sun, wind, and extreme temperature exposure in addition to external pressure (such as repeatedly sleeping on that ear) have been implicated (Habif, 2004). Other contributing factors are anatomical and include thin skin overlying the helix, absence of subcutaneous tissue, and a poor local blood supply. The majority of patients are men over the age of 50 (Wade, 1979).

Nonsurgical management includes serial intralesional steroid injections with use of a special pillow (CNH pillow) designed to prevent contact or pressure to the lesion. Cryo- and carbon dioxide laser ablation of the lesions have shown lesser efficacy. Complete surgical excision continues to be the definitive treatment of choice.

Psoriasis

Psoriasis is a common papulosquamous pruritic skin condition affecting approximately 2 percent of the general population (Christophers and Mrowietz, 2003). It is not hereditary in the Mendelian sense, but there does seem to be a genetic predisposition with increased incidence in family
members of affected individuals. Psoriasis can be widespread or localized and has a chronic, waxing and waning course. Well-documented triggers for exacerbation include trauma, infection, stress, and medications such as beta blockers, lithium, and angiotensin-converting enzyme inhibitors (Christophers and Mrowietz, 2003). Patients often note their psoriasis is better in the summer when their skin is exposed to more sunlight.

In the external ear, conchal bowl involvement is commonly seen. Classically, psoriatic lesions are described as well-demarcated, erythematous plaques with a “silvery scale.” If the superficial scale is removed, pinpoint hemorrhage can be seen (Auspitz sign), which can be helpful in making the diagnosis in some cases. Ear psoriasis may not demonstrate all of the classical findings and instead may show nonspecific red, dry, and scaly skin, as shown in Figure 4. Patients will complain primarily of itching. Though it is possible to have psoriasis only in the ears, one will often find involvement in other areas of the body as well.

Treatments for psoriasis include topical steroid solutions in moderation or on an intermittent basis. Bland emollients (petroleum jelly or Aquaflo) can be applied with the fingertip. Other options include moisturizers with up to 10 percent urea to improve hydration and remove scaling (Christophers and Mrowietz, 2003) or topical vitamin D3 derivatives (calcipotriene ointment).

PREMALIGNANT LESIONS

Actinic Keratosis

Actinic keratoses (AKs), also known as solar or senile keratoses, are very common precancerous cutaneous lesions arising from keratinocytes—epidermal cells that produce a skin protein called keratin. AKs develop from prolonged ultraviolet (UV) radiation exposure and over time may transform into squamous cell carcinomas. AKs increase in prevalence with age. Less than 10 percent are seen in white adults aged 20–29 years, while 80 percent are seen in white adults aged 60–69 years (Duncan and Leffell, 2003). The vast majority of these lesions occur on sun-exposed skin. Risk factors for developing AKs, other than age and UV radiation exposure, include fair skin pigmentation and immunosuppression with a small male predilection. The typical AK lesion presents as a 2–8 mm flat, erythematous, rough, scaly, ill-marginated papule. The clinical diagnosis is based more on tactile than visual senses.

AKs are often managed with close follow-up by dermatologists who strongly recommend avoiding any sun and UV radiation exposure. Common treatments include cryotherapy with liquid nitrogen, topical tretinoin (e.g., Retin-A), or topical chemotherapeutic agents such as 5-Fluorouracil. Less common treatments include curettage, medium-depth chemical peels, dermabrasion, laser resurfacing, and photodynamic therapy.

MALIGANANT LESIONS

Basal Cell Carcinoma

Basal cell carcinoma (BCC) is the most common of all skin malignancies. It arises from malignant transformation of basal keratinocytes in the lowest layer of the epidermis and from adnexal structures. BCCs can occur at any age; however, the risk significantly increases after 40 years of age. Although ultraviolet exposure is felt to be a contributing factor in its development, this is less so than with squamous cell skin cancers. Though they are found anywhere on the body, 85 percent are found on the head and neck region (Habif, 2004), and they often can be found hiding in non-sun-exposed skin such as behind or inside the ears.

Several subtypes of BCCs exist, including superficial, nodular, sclerosing, and pigmented varieties. This makes description of clinical appearance more difficult, as each variety has its own nuances. However, in general, the most common appearance of a
classic BCC is that of a slightly translucent or pearly plaque with rolled borders and scattered telangiectasias. There may be superficial crusting or erosion. An example of a BCC is shown in Figure 5. Patients often mistakenly attribute them to some sort of minor trauma initially but then note that the lesion never heals and bleeds easily. Pigmented BCCs can mimic other dark-colored lesions such as malignant melanoma or seborrheic keratoses. The sclerosing variant of BCC can look like a waxy, firm, pale plaque with ill-defined borders and thus has an appearance much different from the more common, classic BCCs. This variant is important as it tends to be more aggressive with potential for wide extension.

Treatment of the biopsy-proven BCC is dependent on its subtype and location. The area around the ear is important for two reasons. Because of the location on the face, good cosmetic outcomes are essential. Second, BCCs around the nose, eyes, and ears can extend deeper and behave more aggressively than BCCs elsewhere. Inadequate treatment can result in recurrence that may be cosmetically disfiguring. For all of these reasons, most periauricular BCCs, with the exception of perhaps superficial BCCs, are treated via Mohs micrographic surgery. This is a specialized type of dermatologic surgery wherein serial layers of tissue are removed. While the patient is still in the office, each successive layer is processed into a histology slide, and 100 percent margin evaluation is performed by the surgeon. Once all of the margins of the specimen are negative for residual tumor, the resection is complete. Thus, it can take anywhere from one layer to many layers to entirely remove the cancer. For the superficial BCC, electrodessication and curettage, cryosurgery, or topical imiquimod (Aldara) are sometimes employed.

Squamous Cell Carcinoma

Squamous cell carcinoma (SCC) is the second most common type of skin cancer. The vast majority arise on sun-exposed surfaces. The lifetime risk of developing an SCC is 15 percent, almost twice the rate seen 20 years ago (Grossman and Leffell, 2003). Risk factors include precursor lesions (such as actinic keratoses), ultraviolet radiation (sun/tanning beds) exposure, previous radiation therapy, immunosuppression, scars, burns, and fair skin. The typical presentation is a firm, flesh-colored or erythematous, keratotic papule or plaque with indiscinct margins and occasional tenderness. An example is shown in Figure 6. SCC has metastatic potential and must be identified early and treated. The site with the highest rate of recurrence is the ear (Grossman and Leffell, 2003).

Nonsurgical treatments are useful in only a select group of patients. These techniques include electrodessication and curettage, CO₂ laser ablation, liquid nitrogen cryoablation, photodynamic therapy, and topical or injectable antineoplastic agents. The mainstay of treatment is surgical excision (either traditional or Mohs micrographic surgery). External beam radiation can be used as a primary treatment modality or as an adjuvant therapy postexcision.

Melanoma

Melanoma is a malignant skin cancer that arises from preexisting nevi or moles and from pigment-producing cells called melanocytes. There are four different types of melanoma: superficial spreading, nodular,
lentigo maligna, and acral lentiginous. It is one of the deadliest skin cancers due to its propensity to metastasize. The incidence of melanoma over the past several decades is rapidly increasing, faster than any other cancer in the United States (Langley et al, 2003). The majority occur in the 15- to 50-year-old age group. Primary melanoma of the head and neck accounts for 25–30 percent of all melanomas (Clevens et al, 1998). The external ear accounts for approximately 10 percent of all melanomas in the head and neck region (Gussack et al, 1983; O’Brien et al, 1991). Specifically, the helical rim is the most common site of involvement. Sun exposure, family history of melanoma, and having many cutaneous nevi are risk factors. The clinical characteristics of a classic melanoma lesion follow the ABCDE acronym: Asymmetry, irregular Border, Color (known as the “patriotic lesion”—red, white, and blue), Diameter >6 mm, and Evolution (change). A typical melanoma is seen in Figure 7.

Prognosis and treatment are based on tumor thickness or depth of invasion. Therapy involves surgical excision with wide margins. Based on tumor thickness, a sentinel lymph node biopsy may be indicated. If regional lymph nodes are involved, therapeutic lymph node dissection is performed. If the melanoma is more advanced, chemotherapy, radiation, and interferon have demonstrated benefit and melanoma vaccines are being investigated (Lookingbill and Marks, 2000).

Early detection and treatment of melanoma are the key to survival. Thus, all suspicious pigmented lesions must be biopsied, and prompt referral to a specialist is a necessity.

CONCLUSIONS

The auricle and external ear canal consist of very thin skin with minimal subcutaneous tissue. Both uniquely receive sensory input from several cranial nerves. Thus, minor benign cutaneous disorders of the ear often cause patients significant pain and pruritus. Many of these benign conditions are easily treatable when brought to the attention of a physician.

Premalignant and malignant lesions of the ear are also very curable when detected early. As a health care professional, there is a responsibility to inform patients of
any concerning medical problems that are encountered. Any persistent, nonhealing, or enlarging lesion, especially on sun-exposed areas, such as the ear, warrants further evaluation.

REFERENCES


