Open Journal of Otolaryngology

ISSN: 2639-3603

Volume 1, Issue 2, 2018, PP: 04-06

Important Outcomes about External Ear Carcinoma for Audiologists

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Abstract

Background: *Carcinoma of the external ear is an uncommon diagnosis and can be difficult to differentially diagnose. Common symptoms for carcinoma in this location are similar to popular otologic diagnoses, such as otitis externa and cholesteatoma. Without proper training, it can be difficult for audiologists to know when the symptom is more serious and requires more attention or referral to an otolaryngologist/otologist. This article will help audiologists determine differential diagnosis for carcinoma.*

Discussion: *Key findings are comparison of common symptoms, identifying signs for referral for implementing specialized imaging, varying forms of treatment, and expected outcome from treatment plans for carcinoma.*

Conclusion: *Although it is not in the scope of practice for an audiologist to diagnose or treat carcinoma of the external ear, it is pertinent that audiologists are informed on how to identify concerning symptoms. Moreover, this information helps audiologists in justifying concern for carcinoma when referring to otolaryngologists/ otologists. In discussing these key topics for carcinoma of the external ear, this will create awareness of carcinoma and help audiologists identify key symptoms for referral. Furthermore, implication of this article will encourage a more informed audiologist and implement knowledgeable testing and counseling techniques on treatment and outcome for affected patients.*

Keywords: *Carcinoma, External Auricle, Outer Ear, Squamous Cell Carcinoma*

Introduction

Carcinoma is one of the most common forms of cancer in the world. This type of skin cancer begins in the epithelial cells of the body and begins to mutate, destroy, and over-generate surrounding epithelial cells (Turner, Morgan, Palme, & Veness, 2010). Although carcinoma's mortality rate is not as severe as melanoma, another type of skin cancer, carcinoma is often and easily over looked in routine exams by various medical physicians and professionals. Carcinoma is divided into at least four categories of cancer, with many subdivisions within each category. The most common category of carcinoma are basal cell carcinomas, while the second most common category of carcinoma are squamous cell carcinoma (Skin Cancer Foundation, 2018). Carcinoma can form in the epithelial cells that generate skin or it can form in the epithelial cells that form organs within the body. Soma carcinomas may arise simply on the skin and can metastasize, or spread, over time to other organs within the body. Although metastasizing is not as common with types of carcinoma, this cancer still has the potential to metastasize, especially if no action is taken for years (Skin Cancer Foundation, 2018).

In terms of hearing and balance health, squamous cell carcinoma is the most common type of cancer to affect the hearing system, particularly the external ear and the middle ear (Noronha, Joshi, Ghosh, & Prabhash, 2015; Turner, Morgan, Palme, & Veness, 2010). The prevalence of squamous cell carcinoma to occur along the hearing and balance system is 1 in 1.000.000 and 0.8 in 1.000.000 in women and men, respectively (Shrivastava, Mandloi, Tiwari, Ghori, Singh, & Yogi, 2016). Although it is rare for lesions on or in the ear to become malignant, or expansion of disease, squamous cell carcinoma can metastasize and cause symptoms

and permanent damage to the hearing and balance system and also surrounding structures of the head and neck (Shrivastava, Mandloi, Tiwari, Ghori, Singh, & Yogi, 2016). Squamous cell carcinoma is often referred as cutaneous (pertaining to skin) squamous cell carcinoma to further identify the type of carcinoma cancer affecting the ear. Squamous cell carcinoma was the type of carcinoma most frequently reported (Noronha, Joshi, Ghosh, &Prabhash, 2015; Shrivastava, Mandloi, Tiwari, Ghori, Singh, & Yogi, 2016; Turner, Morgan, Palme, &Veness, 2010; Zainuddin& Abdullah, 2015) while other types of carcinomas reported were verrucous carcinoma (Singh, Nair, Mishra, & Singh, 2016) and cutaneous neuroendocrine carcinoma (Li, Chi, Wang, Wang, Yang, &Huang, 2012).This article will discuss aspects of carcinoma of the external auricle/ear canal.

Discussion

Understanding characteristics of carcinoma is essential to providing proper identification and diagnosis of carcinoma cancer for any potential or current patient.

It is important to understand that carcinoma can go many months to many years without presenting symptoms (Li, Chi, Wang, Wang, Yang, &Huang, 2012; Turner, Morgan, Palme, & Veness, 2010). Despite the grade of the cancer or the presence of any symptoms, it is important to inform a patient on the importance of following up with a specialized physician and to be proactive with their own health. Additionally, audiologists need to be proactive and attentive to detecting any lesions, discoloration, nodules, or tumors that are unusual or new to the patient.

One of the commons signs and symptom are ear discharge and ear pain (Noronha, Joshi, Ghosh, & Prabhash, 2015; Shrivastava, Mandloi, Tiwari, Ghori, Singh, & Yogi, 2016; Singh, Nair, Mishra, & Singh, 2016; Turner, Morgan, Palme, & Veness, 2010; Zainuddin & Abdullah, 2015). When ear discharge is present, it is difficult or not possible to visualize the presence of lesions, discoloration, nodules, or tumors inside the external ear canal. Although all patients with the potential for serious ear related diseases benefit from imaging scans (such as computerized tomography or magnetic resonance imaging). These imaging scan help provide a more detailed and inclusive view of what is occurring within the hearing and balance system and surrounding structures, such as the skull and neck.

Another important characteristic is the presence of hearing loss and tinnitus (Shrivastava, Mandloi, Tiwari, Ghori, Singh, & Yogi, 2016; Singh, Nair, Mishra, & Singh, 2016; Turner, Morgan, Palme, & Veness, 2010; Zainuddin & Abdullah, 2015). Hearing testing may provide more insight to the physician on the potential effect of the disease, while monitoring hearing from the beginning of concern can help the patient maintain awareness and be proactive about maintaining their hearing health. Monitoring of hearing can also keep the audiologist informed and available for the patient to reach out for help with maintaining any residual hearing.

It is part of an audiologist's scope of practice to be able to understand the possible symptoms of these medically treatable diseases. Moreover, knowledge of characteristics and symptoms are necessary for reasonable referral to an otolaryngologist/otologist. Proper understanding of serious disorders/diseases can help guide an audiologist with describing the possible reason for referral.

In terms of discussing treatment options, there was no concise guideline for managing carcinoma of the external auricle/ear canal. Biopsies and imaging scans were key for identifying the type of disease, the severity of the disease, and potential malignancy. The rarity of this diagnosis makes it difficult for physicians to know what effective treatment statistically works. The surgical resection is one of the most effective treatment methods for these patients with carcinoma (Li, Chi, Wang, Wang, Yang, &Huang, 2012; Noronha, Joshi, Ghosh, & Prabhash, 2015; Shrivastava, Mandloi, Tiwari, Ghori, Singh, & Yogi, 2016; Singh, Nair, Mishra, & Singh, 2016; Turner, Morgan, Palme, & Veness, 2010; Zainuddin & Abdullah, 2015). The main challenge deciding whether to use chemotherapy, or radiation, or both options. If either of these options were selected for treatment, the question is whether to use chemotherapy or radiation before or after surgery. Therefore, surgery was the primary choice of treatment. After surgery, the patient was assessed to determine if they were free of disease and whether secondary, further treatment would be necessary. If secondary treatment was necessary, it appeared favorable that radiation was the next choice of treatment, after surgery. The radiation appeared to either be a finishing method or a preventative measure for absolving the patient of disease. However,

this appeared to be the treatment option for standard squamous cell carcinoma patients and verrucous carcinoma (Singh, Nair, Mishra, & Singh, 2016; Turner, Morgan, Palme, & Veness, 2010; Zainuddin & Abdullah, 2015).

It is known that severity of disease determines whether surgical resection is an option for patients. It is important to understand the full extent of the spread of the disease in order to provide the best option for treatment. While an audiologist does not conduct treatment plan design for patients, it is important for the audiologist to be aware, assertive, and proactive with monitoring the patient's hearing and balance health. Understanding the patient's treatment plan can allow for important counselling on how this treatment will affect their hearing and balance health, what testing can help monitor this health, and what treatment options can be available for maintaining the most out of the patient's hearing and balance health.

Conclusion

Individual factors, such as severity, age, and current physical health, played an important role in determining treatment plan. It is essential to discuss the importance of awareness and training of other medical healthcare professionals, such as audiologists, to help encourage referral, treatment, and include beneficial counselling related to hearing and balance health for the patient diagnosed with carcinoma of the external auricle/auditory canal.

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Citation: **Lilian Felipe**. *Important Outcomes about External Ear Carcinoma for Audiologists . Open Journal of Otolaryngology. 2018; 1(2): 04-06.*