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CASE REPORT

Ear canal papilloma in a 20 year old Ghanaian male

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Squamous papilloma in the head and neck region commonly affects the skin, oral mucosa and upper aerodigestive tract. Ear canal papillomas are relatively rare worldwide, even more uncommon in the West African subregion. We report a twenty year old Ghanaian male seen with ear canal papilloma at our clinic in Kumasi, Ghana. Diagnosis was essentially by histopathology and follow up revealed no recurrence.
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INTRODUCTION

Squamous papillomas, also known as viral warts, are caused by the human papilloma virus (HPV), a DNA virus of the Papovaviridae family (Wang *et al.*, 2009; Abboud *et al.*, 2012). HPV infections present in a variety of ways and these include the common warts, oral or vulvar papilloma, keratoacanthoma, epidermoplasia verruciformis etc. In the head and neck region, the commonly affected sites are the skin, oral mucosa and upper aerodigestive tract (Wang *et al.*, 2009).

Ear canal papillomas are relatively rare and are generally associated with low-risk HPV types 6 and 11 (Wang *et al.*, 2009). There appears to be no association with age or sex (Wang *et al.*, 2009) and the exact mode of transmission to the external ear canal is not known. It may originate from contaminated fingers or objects rather than through sexual contact or vaginal delivery. Primary symptoms include itching and a sensation of fullness in the ear (Abboud *et al.*, 2012); however squamous papillomas in the external ear are often asymptomatic. Several treatment options exist and these include surgical excision, cryotherapy, curettage, topical anti-viral agents, radiation therapy and laser treatments (Chang *et al.*, 2013).

Here, we present a clinical case of squamous papilloma in the external auditory canal and review the current literature concerning the diagnosis, natural course and treatment modalities for external auditory canal papillomas.

CASE REPORT AND MANAGEMENT

A twenty year old male presented with a painless growth approximately 0.6 cm in the left ear canal of one year duration. The growth has been increasing in size over the period but not associated with otorrhoea, vertigo, tinnitus or hearing loss. He also denied any self-medication. The patient was reporting to the hospital because the mass in the canal was gradually protruding through the canal.

On physical examination, the vital signs were normal. The patient had a cauliflower mass with a pedicle attached to the anterior wall of the lateral third of the left ear canal (Figure 1). The right ear, nose and throat were however normal. A clinical diagnosis of a left ear papilloma was made and an excision biopsy done under local anaesthesia (Figure 2).

The excised specimen was immediately placed in a specimen bottle provided by the histopathology laboratory containing 10% neutral-buffered formalin and transported to the laboratory. The tissue

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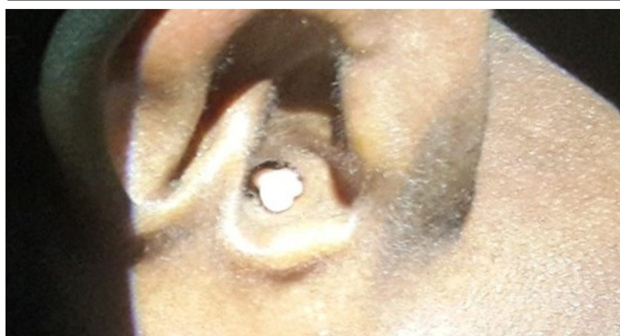

Figure 1: Left ear showing the squamous papilloma

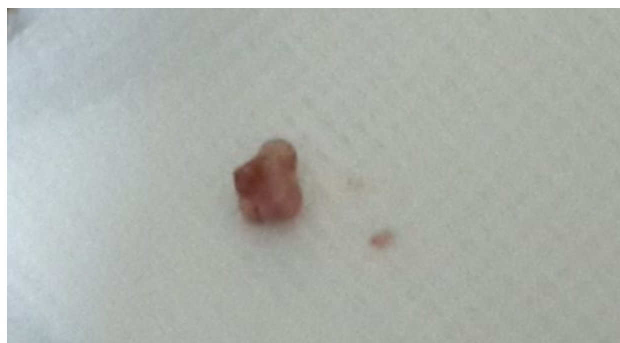

Figure 2: Specimen after excision

was processed by automation, embedded in paraffin and stained with haematoxylin-eosin (H&E) after microtomy at five (5) microns. The H&E stained tissues were then reviewed under the microscopy with objective X4, X10, X20 and X40.

Histology revealed a fibroepithelial polyp or a squamous papilloma with no evidence of malignancy. No microbiological test was done because patient did not have any otorrhoea. The patient has been followed up for the past three months with otoscopic examinations which revealed a normal left ear canal.

LITERATURE REVIEW AND DISCUSSION

Several tumor-like lesions occur in the external auditory canal. These are sometimes named as 'aural polyps' and include osteomas, fibrous dysplasia, granulomas, epidermoid cholesteatoma, malignancies and papillomas (Tanaka *et al.*, 2013). Papillomas are benign exophytic proliferations which occur occasionally in the external ear canal. Reports have been made of occurrences in the middle ear as well (Rogers *et al.*, 1968; Lu *et al.*, 2013; Tanaka *et al.*, 2013).

Papillomas are widely suspected to be associated with the Human Papilloma Virus (HPV). HPV belongs to the family of DNA Papovaviridae, which are small, non-enveloped icosahedral viruses, each with an 8 Kb-long double-stranded circular DNA genome. Ear canal papillomas have been generally associated with the low-risk HPV types 6 and 11 (Xia *et al.*, 1996). Squamous papillomas of the external auditory canal are relatively rare presentations and have been rarely reported in English literature even though some authors have described them as commonly occurring in the southern Chinese population (Wang *et al.*, 2009). Reports of this phenomenon are even scarcer in the West African sub-region.

Epidemiologic studies have shown that transmission of HPV infection leading to the development of genital warts and uterine cervical cancer is usually through sexual transmission (Dos Reis *et al.*, 2009; Bhatia *et al.*, 2013; Wikstrom *et al.*, 2013). Oral and pharyngeal warts have also exhibited similar transmission methods (Ragin *et al.*, 2011; Syrjanen *et al.*, 2012). In external ear canal papillomas, however, the mode of transmission is still unknown. It is unlikely that the external ear canal might easily become directly infected through vaginal delivery or sexual contact. Transmission could, however, be through the use of contaminated fingers or objects such as ear picking tools (Wang *et al.*, 2009). In a study by Chang et al, the reasons given for the comparatively high incidence of ear papilloma in Southern China is the cultural ritual of mechanical cleansing with unsterilized re-used instruments by which infectious agent inoculation may take place (Chang *et al.*, 2013). Some reports have also been made of an external auditory papilloma resulting from dissemination of squamous papilloma by surgical manipulation (Welsh *et al.*, 1984). There appears to be no association with age or sex (Wang *et al.*, 2009).

Squamous papilloma typically presents as a single

pedunculated mass (usually supported on a stalk) with numerous finger-like projections at the surface. The projections may be long and pointy or short and rounded if keratin has built-up round the lesion. Histologically, they arise from stratified squamous epithelium and are characterized by the growth of multiple papillary fronds (papillomatosis), hyperkeratosis, parakeratosis, acanthosis, infrequent mitosis and rare nuclear atypia (Wang *et al.*, 2009).

Patients may present with symptoms including itching and a sensation of fullness in the ear, however squamous papillomas are often asymptomatic (Abboud *et al.*, 2012). A definitive diagnosis of this lesion is made by biopsy and histopathological analysis. Most benign squamous papillomas of the external ear have a favorable course with no recurrences, although rare reported cases have undergone apparent malignant transformation (Miah *et al.*, 2012).

Treatment of the lesion in most cases is by surgical excision (Yadav *et al.*, 2002; Wang *et al.*, 2009; Chang *et al.*, 2013; Cho, 2013). However, other treatment modalities have been employed and these include cryosurgery, electrodessication, carbon dioxide lasers and radiotherapy (Rogers *et al.*, 1968). Complications of surgical removal are rare but may include possible scarring which may cause stenosis of the external auditory canal (Chang *et al.*, 2013).

CONCLUSION

In conclusion, any patient with a cauliflower mass in the ear canal should alert the surgeon to consider squamous papilloma as a possible diagnosis.

COMPETING INTERESTS

The authors declare that they have no competing interests.

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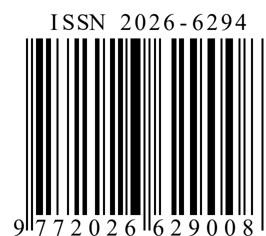
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