

Posterior Auricular Myiasis: Rare Presentation of a Malignant Lesion

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ABSTRACT

Squamous cell carcinoma (SCC) arises from the malignant proliferation of the keratinocytes of the epidermis that has invaded into the dermis or beyond. Posterior auricular SCC is categorized as high-risk SCC. Infestation of fly larvae or maggots in living tissue of humans and other vertebrate animals is known as myiasis. Rarity of the site of involvement with an underlying malignancy is the peculiarity of this case report. We present a case of elderly male with a posterior auricular mass with myiasis, which turns out to be SCC. Early detection and combined modality of aggressive treatment with surgery and radiation improves the overall patient survival rate.

KEYWORDS: Ear, myiasis, squamous cell carcinoma, external auditory canal, malignancy

INTRODUCTION

Non-melanoma skin cancer (NMSC) accounts for over a million cases worldwide in 2018 [1]. NMSC is the ninth commonest cancer in Malaysia [2]. Squamous cell carcinoma (SCC) is the second commonest NMSC after basal cell carcinoma (BCC). The incidence of cutaneous SCC has increased to a whopping 263% between 1976 to 1984 and 2000 to 2010, this could be because of a growing elderly population and increased focus on cancer screening and patient awareness [3]. Malignant conditions, including BCC and SCC have been found to be associated with myiasis [4].

“Myiasis” is taken from the Greek word “Myia” meaning fly. It is defined as the infestation of living tissue of humans and other vertebrate animals by fly larvae or maggots [5]. Predisposing factors for myiasis includes low socioeconomic factors and poor personal hygiene [5].

CASE PRESENTATION

A 73-year-old male, a non-smoker and a retired farmer who presented with left posterior auricular swelling for one year. It was increasing pain and discharging pus for one-week duration. Examination showed 5 cm x 3 cm fungating mass at left posterior auricular region, with multiple maggots and pus discharging from it (Figure 1). Ear examination showed an indentation over the posterior canal wall, while tympanic membrane appears intact. The right ear examination was normal. Upon further questioning, patient is married with 2 children, but he stays alone with his wife. He also complains of stray animals around his house. His hobby includes gardening.

Contrast-enhanced computed tomography (CECT) of the head and neck showed heterogeneously enhancing left posterior auricular mass measuring 3 cm x 3 cm x 2.4 cm. There was a bony defect in the



posterior wall (0.7 cm x 0.7 cm) and the rest of temporal bone was normal (Figure 2). Neck nodes were not enlarged. Hearing assessment revealed left moderate to profound mixed hearing loss, while right showed

moderate sensorineural hearing loss. Tympanogram showed type B for the left ear, while the right ear showed type A.



Figure 1 Fungating mass at left posterior auricular region

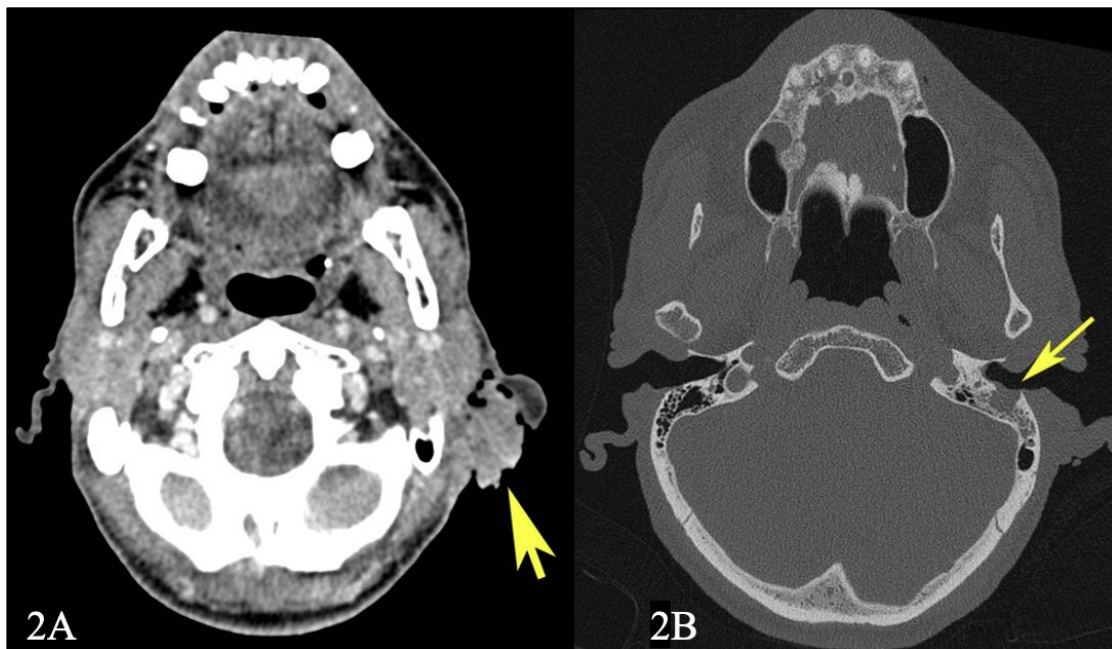


Figure 2 Fungating mass at left post auricular region (arrow) in axial CECT scan (2a) with 0.7 cm x 0.7 cm posterior wall defect (arrow) on the bone window (2b)

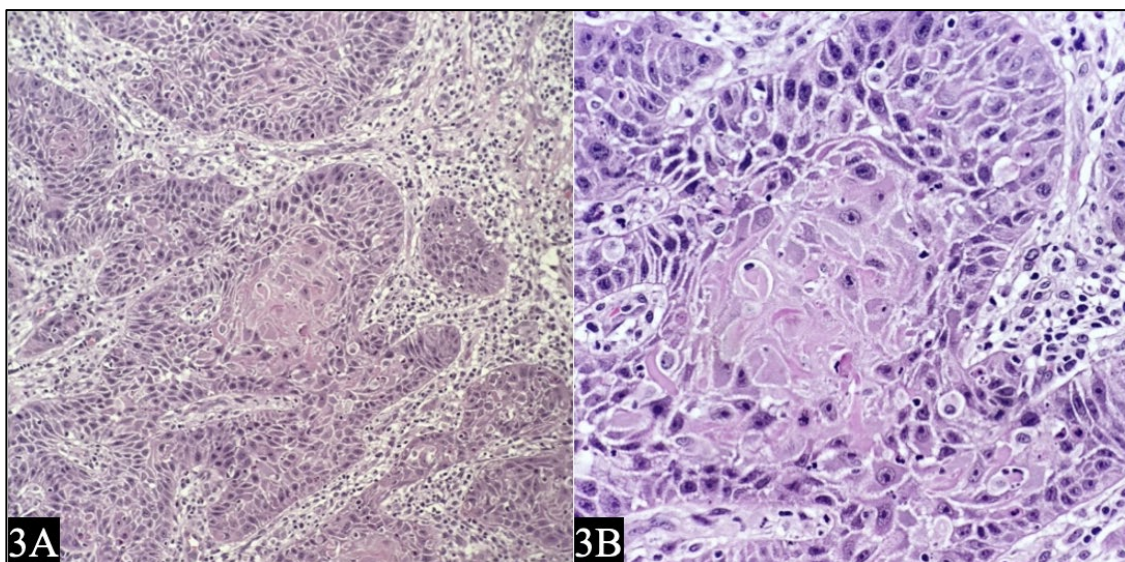


Figure 3 Hematoxylin & Eosin (H&E) 20X (3a) and H&E 40X shows pleomorphic, hyperchromatic nuclei with prominent nucleoli malignant squamous epithelial cells (3b)

Manual evacuation of maggots was done after the application of turpentine oil, the biopsy of the mass came back as SCC. The patient subsequently underwent left pinna wide local excision, left cortical mastoidectomy, left meatoplasty and left supra-omohyoid neck dissection. Histopathological examination confirmed post auricular cutaneous SCC, which showed well-differentiated SCC with malignant squamous epithelial cells, these cells are pleomorphic, having hyperchromatic nuclei with prominent nucleoli (Figure 3), and all surgical margins are clear, lymph nodes level I to III was negative for the malignancy. Patient refused adjuvant radiotherapy. He is currently on surveillance and has been free of disease for 9 months.

DISCUSSION

SCC can develop on any cutaneous surface, with the majority involving head and neck region. Cutaneous SCC origin from the skin of pinna or external auditory canal results in involvement of ear and lateral skull base [6]. The skin of the pinna is thin and tightly bound to its underlying cartilage, tumours that arise in epidermis and grows down through the dermis encounters an abundant number of lymphatic vessels, this distance is lesser than other sites in pinna due its thin skin [7]. Hence, tumours need not invade so deeply before encountering lymphatic channels and cartilages to

metastasize [7]. Auricular SCC categorized as high-risk SCC because it has threefold higher risk for neck metastasis [8], this explains the role of neck management that was undertaken in our patient.

Studies have demonstrated that when the lower half of the pinna was involved, it is associated with a higher metastatic rate than those of the upper half of the pinna [9]. Other factors associated with a higher risk of metastasis are perivascular or perineural invasion, tumour volume, ulceration and incomplete excision. Clinical symptoms can be ranging from pus discharge, otalgia, and the mass which could be mistaken for other benign diseases. Complete surgical resection with clear margins with or without selective neck dissection followed by adjuvant radiotherapy remains the mainstay of treatment [10]. Our patient's auricular mass was on the lower half of the pinna. Therefore, we've performed a supraomohyoid neck dissection. Fortunately, there were no positive nodes in histopathological examinations.

Infestation of fly larvae or maggots in living tissue of human and other vertebrate animals is known as myiasis. Flies attracted to lay eggs in exposed open wounds or natural body openings such as eye, ear, nose, vagina, anus [11]. Poor personal hygienic conditions, the presence of domestic animals in the close vicinity, neglected open wounds, foul-smelling discharge from wounds or natural body openings, crowded conditions, low-socioeconomic status and malignant lesions are all

the predisposing factors for myiasis [11]. Our patient is from low socioeconomic status and reported stray animals around his living house. He also expressed neglecting his wound over his ears for few months before seeking treatment. SCC was identified as one of the risk factors for myiasis in a study which reviewed a total of 15 cases with SCC associated myiasis [12].

CONCLUSION

Malignancy should be strongly considered in patients presenting with a discharging ear mass especially amongst elderly. Health awareness and personal hygiene should be emphasized. The presence of myiasis could complicate the management of a malignant lesion. Early detection and combined modality of aggressive treatment with surgery and radiation improves the overall patient survival rate.

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Conflict of Interest

Authors declare none.

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Authors' contribution

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