

**Primary Squamous Cell Carcinoma of the External Auditory Canal: A Rare Malignity****Selçuk Kuzu<sup>1\*</sup>, Erol Güldün<sup>2</sup>**<sup>1</sup>Emirdağ State Hospital Otorhinolaryngology Clinic, Türkiye<sup>2</sup>Banaz State Hospital Otorhinolaryngology Clinic, Türkiye**\*Corresponding author***Selçuk Kuzu***Article History***Received: 15.12.2017**Accepted: 19.12.2017**Published: 30.12.2017***DOI:**

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**Abstract:** Squamous cell carcinoma (SCC) of the external auditory canal is an uncommon malignancy. Patients of such disease often initially present with nonspecific symptoms, such as ear discharge and otalgia as in chronic otitis media. Treatment of EAC carcinomas is generally based on the combination of surgery and radiotherapy. Patients with EAC must initially be treated radically, and for them, early diagnosis and referral to an institution with experience in this kind of surgery is important. In this case report we aim to present a patient with ECA SCC who was misdiagnosed and treated for chronic otitis externa for a long time.

**Keywords:** Squamous cell carcinoma, external auditory canal

**INTRODUCTION**

Carcinoma of temporal bone is relatively less than other head and neck regions. Carcinoma of the temporal bone represents one out of 5000 to 20,000 otologic cases with an incidence between 1 and 6 cases per million population per year [1-4]. Squamous cell carcinoma (SCC) is the most frequent neoplasm in the external auditory canal (EAC), about four times more common than basal carcinomas. Carcinoma of the external auditory canal is a rare disease, with an annual incidence of approximately one to six cases per million people which accounts for less than 0.2% of all cancers in the head and neck area [5].

These carcinomas can originate from EAC or be an extension of tumors from the auricle. The otolaryngologist might encounter few or even none EAC tumors in his career [6]. Patients of such disease often initially present with nonspecific symptoms, such as ear discharge and otalgia as in chronic otitis media. Because of the lack of specific clinical manifestations and minimal experience in diagnosing and managing this disease among many otolaryngologists, misdiagnosis of EAC carcinoma occurs frequently, especially during its early stages [5]. Otalgia is the most common presenting complaint. Other clinical features include hearing loss, headache, facial numbness, hoarseness, dysphagia, blood stained otorrhea, facial palsy, other cranial nerve palsy [7].

In this case report we aim to present a patient with ECA SCC who was misdiagnosed and treated for chronic otitis externa for a long time.

**CASE REPORT**

A 48-year-old male admitted to our clinic with 1 year history of moderate otalgia right side and serosanguinous persistent otorrhea of 6 months duration which was treated at various private clinics as otitis externa with topical antibiotic, antifungal, anti-inflammatory preparations including systemic antibiotics with resolutions sometimes but recurring. He also gave history of reduced hearing on right ear as compared to left. There was no history of tinnitus, vertigo, facial weakness, aspiration, radiation exposure or alcohol or tobacco abuse. On examination there was thickening and erythema with mucoserous discharge of complete external auditory canal (EAC) (Figure 1). Both tympanic membranes were intact but he had moderate conductive hearing loss without any cranial nerve weakness or loss of sensation. Despite these findings other examinations were neutral. A computed tomography (CT) scan of temporal bones and ear which patient had in another clinic revealed opacification of his right EAC. Due to his persistent symptoms a biopsy of right EAC was done under local anesthesia. Pathology was reported as well differentiated SCC. Patient was referred to oncology center where he underwent partial temporal bone resection followed by post-operative full dose radiotherapy. There is no recurrence in 1 year following treatment.



**Fig-1: Right EAC of patient**

## DISCUSSION

Squamous cell carcinoma (SCC) of the external auditory canal is an uncommon malignancy that arises from the external ear and spreads to the temporal bone and surrounding sites [8,9]. Periauricular soft tissues, the parotid gland, temporomandibular joint and mastoid are common sites of tumour progression. The carotid canal, jugular foramen, dura, middle and posterior cranial fossae are invaded in advanced stages [7,9].

The predisposing factor for SCC of the temporal bone and EAC is a long standing chronic otitis media for more than 20-25 years duration [10]. The other risk factors are chronic dermatitis, cholesteatoma, history of irradiation and occupation like radium dial painter [11-15]. For our patient there was none predisposing factor.

Otorrhea and otalgia are the most common symptoms of temporal bone tumors [16]. Other clinical features include hearing loss, headache, facial numbness, hoarseness, dysphagia, blood stained otorrhea, facial palsy, other cranial nerve palsy [7]. Because these symptoms are similar to those of otitis externa and chronic suppurative otitis media, EAC cancer is easily misdiagnosed as those common otologic diseases.

Some articles suggest that biopsy should be chosen for a pathological diagnosis if EAC carcinoma is suspected, especially if a case of otitis media or otitis externa does not respond to standard therapy. However, the credibility of biopsy is doubtful [5,16]. Additionally, for diagnosis CT and MRI should be considered, which not only help to provide information that can lead to an early diagnosis but are beneficial to estimating the extent of disease. CT is good at discovering bone erosion and MRI is excellent at showing the soft tissue lesion. The two imaging modalities are complementary [17]. For our patient CT did not show any bone erosion.

The university of Pittsburgh system is accepted as staging method for the disease [18]. The Pittsburgh classification system for external auditory meatus carcinoma:

T1 Tumor limited to EAC without bony erosion or evidence of soft tissue extension

T2 Limited EAC erosion (not full thickness), or radiographic findings consistent with limited (<5 mm) soft tissue involvement

T3 Erosion into the EAC (full thickness) with limited (<5 mm) soft tissue involvement, or tumor involving the middle ear and/or mastoid, or presence of facial paralysis

T4 Tumor eroding the cochlea, petrous apex, medial wall of middle ear, carotid canal, jugular foramen or dura, or with extensive (>5 mm) soft tissue involvement

N As described by the American Joint Committee for classifying lymph node involvement in head and neck neoplasms. However, any node involvement is considered to be advanced disease: stage III, T1, N1; stage IV, T2, T3, T4, N1, M Any metastasis is considered to be advanced disease: stage IV, M1

Surgical resection is crucial as a treatment modality, and early surgical intervention is associated with increased survival [19-21]. Additionally, different stages of the disease may require a different level of surgical resection.

The most recent papers recommend the use of postoperative radiotherapy in all cases, with better results when the resection margins have been negative in surgery [22]. Our patient had a partial temporal bone resection and postoperative radiotherapy.

Predictors of poor survival include extensive tumor involvement, neck node metastasis, facial nerve paralysis, pain, middle ear involvement, cervical or periparotid lymphadenopathy and concomitant chronic otitis media [23-25]. Advanced stage disease, node-positive disease, positive surgical margins, tumor recurrence, poorly differentiated squamous cell histological findings, brain involvement and salvage surgery were also associated with a poorer outcome [21,26]. Possible predisposing factors for the disease are preceding head and neck radiation for nasopharyngeal and skin neoplasms [23].

Briefly, treatment of EAC carcinomas is generally based on the combination of surgery and radiotherapy. Patients with EAC must initially be treated radically, and for them, early diagnosis and referral to an institution with experience in this kind of surgery is important. And for early diagnosis, otolaryngologists should be alerted of carcinomas for patients with recurrent and persistent otitis externa and media.

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