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Squamous cell carcinoma of the external ear: clinical and therapeutic aspects of a case

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Abstract: - Carcinomas of the external auditory canal are a rare condition, accounting for approximately 0.2% of all tumors in the head and neck region. Their rarity explains the lack of reliable epidemiological data and the absence of consensus treatment recommendations. Diagnosis is based on imaging and histology, supplemented by the modified Pittsburgh classification, currently the most widely used method for assessing tumor spread. Management remains complex due to the lack of solid prognostic criteria and the diversity of possible therapeutic approaches. Surgery remains the standard option, although it is often invasive and associated with significant postoperative morbidity. Adjuvant radiotherapy is frequently offered, while the role of chemotherapy and exclusive chemoradiotherapy remains debated, particularly in locally advanced forms. Despite therapeutic advances, the prognosis for locally advanced forms remains poor.

The main objective of our study is to present, through this clinical case, the diagnostic and therapeutic characteristics of CEAC, as well as to identify the main prognostic factors associated with this rare disease.

Keywords: Squamous cell carcinoma, outer ear, lymph node metastases, surgery, reconstruction, radiation therapy.

Introduction:

Carcinomas of the external auditory canal are rare and aggressive tumors requiring multidisciplinary management tailored to the stage of the disease, with surgery as the mainstay of treatment. Although several treatment modalities have been described in the literature, there is no consensus on the best treatment, mainly due to the lack of prospective randomized studies. Identifying reliable prognostic factors remains a major challenge in improving survival and guiding therapeutic indications.

Patient and observation:

An 82-year-old diabetic patient on insulin was referred to an ENT consultation for a neglected swelling on the left ear that had been developing for two years, slightly infected, associated with serous-bloody otorrhea and hypoacusis. Otoscopic examination revealed a purplish-red hemorrhagic swelling with infiltration of the surrounding soft tissues, without associated peripheral facial paralysis (Figure 1). The right ear was normal. anterior rhinoscopy, oral examination, and oculomotor function were normal. Examination of the cervical lymph nodes revealed pre-tragic cervical lymphadenopathy, and tonal audiometry confirmed the presence of presbycusis without conductive hearing loss.

CT scan of the petrous bones revealed the presence of a locally advanced tissue process in the left pinna associated with ipsilateral pre-tragal lymphadenopathy without bone lysis . MRI revealed a tissue process infiltrating the left pinna with irregular, budding margins, hypointense on T1 and intermediate on T2 and flair, measuring 32 x 28 x 19 mm, sparing the ipsilateral parotid gland with no cervical metastatic lymphadenopathy (Figures 2 and 3). A biopsy was performed under local anesthesia, which was consistent with moderately differentiated invasive squamous cell carcinoma with no vascular emboli . The staging was normal, and further management was decided upon during a multidisciplinary consultation. This consisted of primary surgery involving total excision of the pinna and 2/3 of the external auditory canal without cervical lymph node dissection (Figure 4). postoperative recovery was uneventful (Figure 5), adjuvant radiotherapy sessions at a dose of 1.5 Gy/day for a total of 52.5 Gy, without adjuvant chemotherapy. The tumor has been in complete remission for 1 year.

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Discussion:

Squamous cell carcinoma (SCC) of the ear is a rare malignant tumor that is highly aggressive locally and has a higher metastatic potential than other locations (11% versus 5% metastasis at 5 years) [1, 2]. It is seen mainly in older individuals but a few cases have been reported in younger individuals; it is more prevalent in males due to occupational sun exposure. It is mainly located on the helix, but also on the antihelix, the navicular fossa, or the posterior surface of the pinna [1 ,2].

The risk factors for its occurrence and recurrence are mainly related to UV exposure, the presence of Bowen's disease, carcinoma in situ, actinic keratosis, chronic inflammation (burns, ulceration, radiodermatitis), immunosuppression, a size greater than 2 cm, or a peri-orificial location [2,3].

Clinical signs vary, are sometimes nonspecific, are often overlooked by elderly patients, and mainly include ear pain, ear discharge, and ear bleeding . The tumor may sometimes take on an atypical appearance, mimicking malignant otitis externa that responds poorly to medical treatment. The clinical examination should look for infiltration of the pinna or retroauricular sulcus, a nodule or auricular mass. Otoscopy often reveals painful stenosis of the auditory meatus, a polyp, a vegetative lesion, ulceration that bleeds on contact, and possible involvement of the tympanic membrane. the search for peripheral facial paralysis (PFP), if found, is an indicator of deep parotid tumor invasion; the examination must be systematically continued with an examination of the cervical lymph node areas by cervical and parotid palpation [3, 4] and an audiometric and vestibular assessment.

The histological diagnosis is confirmed by biopsy with pathological examination. It is recommended to perform a large biopsy with multiple fragments, straddling healthy tissue and the lesion, under local anesthesia, sometimes using a microscope after carefully cleaning the external auditory canal [3,4,5].

The locoregional extension assessment uses cervicofacial MRI, and the distant extension assessment is based on thoracoabdominal CT [2,5]. Cervicofacial MRI remains the key examination for detection, local assessment, and follow-up, thanks to its excellent diagnostic sensitivity in soft tissues, allowing objective evaluation of depth of spread and meningeal invasion [1,2,4].

Thoracoabdominal CT with bone windows allows for the detection of possible distant spread and confirmation of secondary bone involvement. The role of positron emission tomography (PET) combined with CT (PET-scan) is still under discussion, except in extensive or recurrent forms [3,4,6].

The differential diagnosis of EC involves other malignant tumors: adnexal carcinoma, neuroendocrine carcinoma (Merckel's tumor), and achromic melanomas. Among benign tumors, the main differential diagnosis is keratoacanthoma [5, 6,7].

Treatment is based on radical surgery followed by adjuvant radiotherapy and must meet three major objectives: curative, by ensuring high-quality cancerous excision to prevent recurrence; functional; and aesthetic [3]. Surgical excision must be as extensive as possible with lateral and deep safety margins due to the frequency of microscopic extension, which is a source of local recurrence. The ideal safety margin is 10 millimeters, ensuring total deep excision [5,6,7].

Reconstruction should only be considered on healthy margins after obtaining the final pathological result [7,8] or intraoperatively using the Moos technique (extemporaneous analysis of skin margins). Reoperation is routine in cases of invaded margins, and in cases of lymphadenopathy, lymph node dissection of zones II, III, and IV must be performed [7,8].

The recommendations of the REFCOR, as well as those of many authors, suggest adjuvant radiation after surgery for all tumor stages, except for certain cases of T1 tumors strictly confined to the posterior wall of the EAC and presenting no adverse histological factors. the number of sessions and the dose delivered are determined based on the size and margins of excision of the tumor [7, 8].

Chemotherapy is mainly indicated in cases of metastasis, more rarely in cases of recurrence, possibly in combination with radiotherapy, or for metastatic forms, preoperative chemotherapy reduction of large squamous cell carcinomas is beneficial [6,8]. A single meta-analysis has shown a significant increase in survival in patients receiving neoadjuvant chemotherapy at a locally advanced stage prior to surgery.

Squamous cell carcinomas are potentially aggressive, however, several prognostic factors have been identified, including size, depth of invasion, histological differentiation, rapid growth, etiology, neurotropism, recurrence after treatment, and the presence of immunosuppression [5,7,9]. Other studies suggest that malnutrition, immunosuppression, a Karnofsky index below 90, facial paralysis, and positive margins are unfavorable prognostic factors for survival.

It is now clear that squamous cell carcinomas of the ear are the result of a complex accumulation of factors related to lifestyle, sun exposure, heredity, and the environment. Some factors are unavoidable, but others can and must be controlled through a prevention system, which has benefits not only in terms of human lives, but also economically and socially [7, 8,9].

Conclusion:

Squamous cell carcinomas of the ear are rare tumors that are more aggressive and grow and spread more rapidly in older people. Early clinical diagnosis allows for better early management and a good prognosis. Treatment is mainly surgical, with radiotherapy indicated postoperatively.

Conflict of interest:

The authors declare no conflicts of interest.

Authors' contributions:

All authors contributed equally to this article.

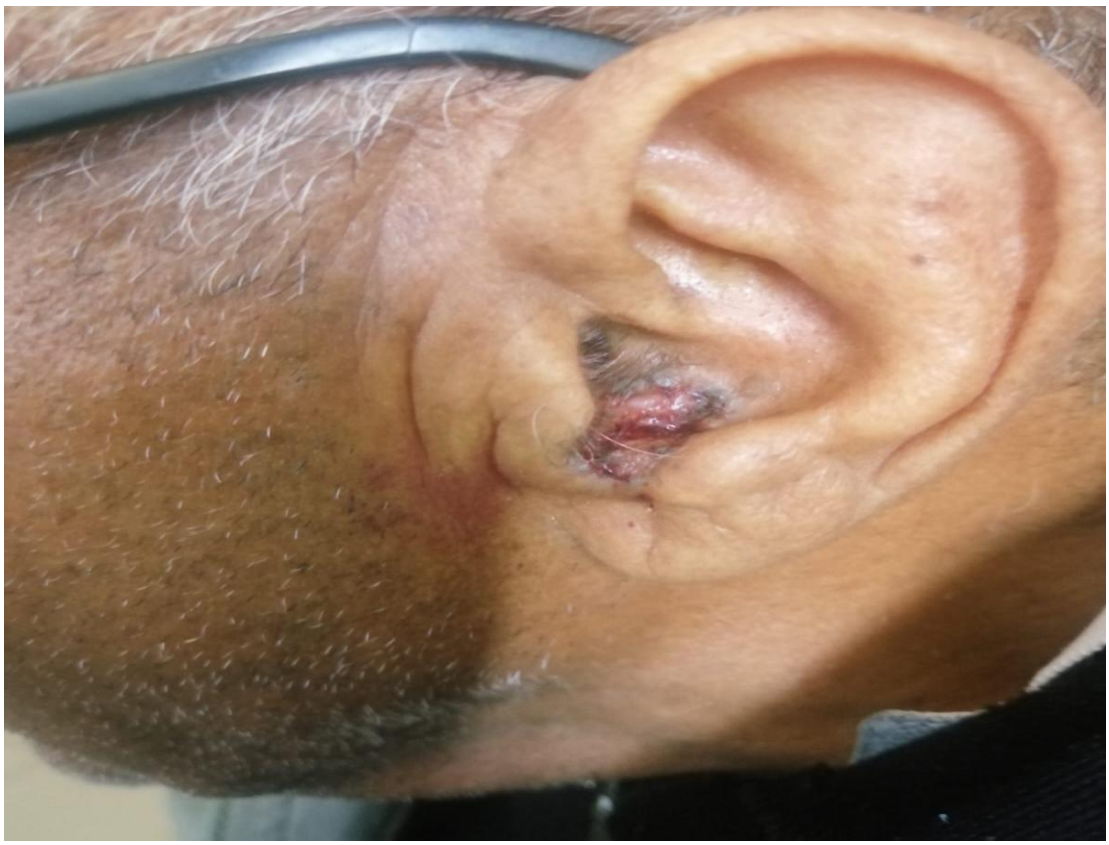

Fig. 1: Otoscopic view showing the polypoid tumor on the posterior wall of the left external auditory canal.

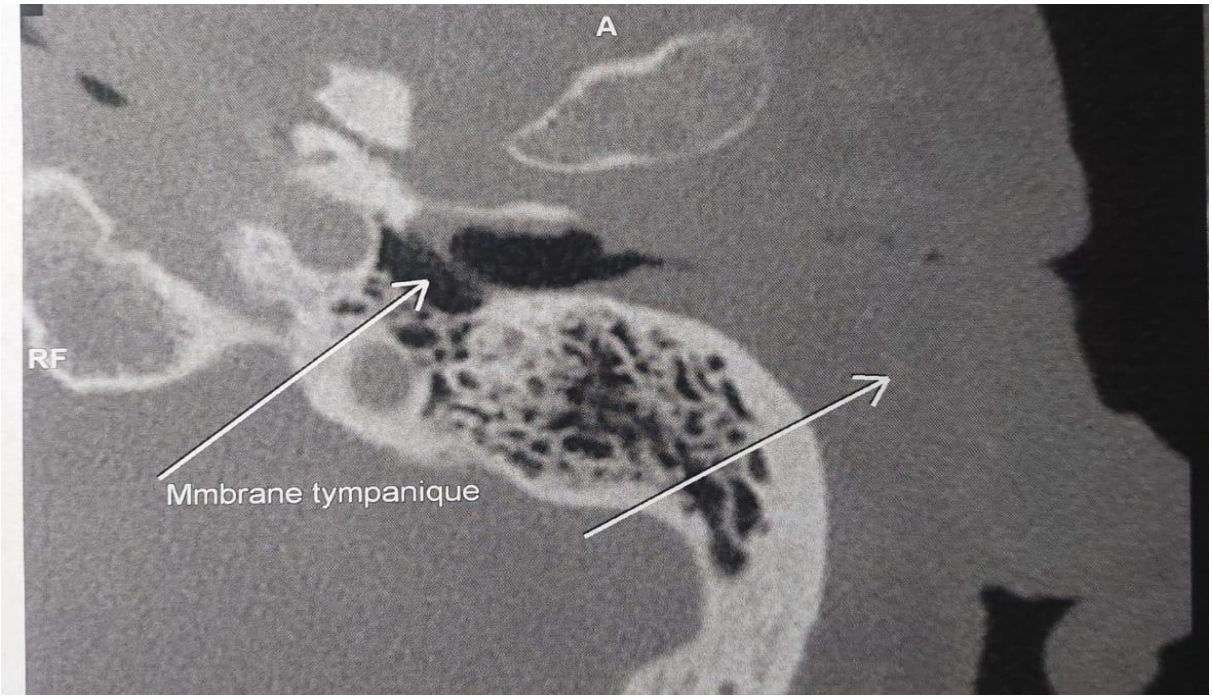

Fig2: CT scan of the left petrous bone in horizontal section showing the tumor without bone lysis of the external auditory canal.

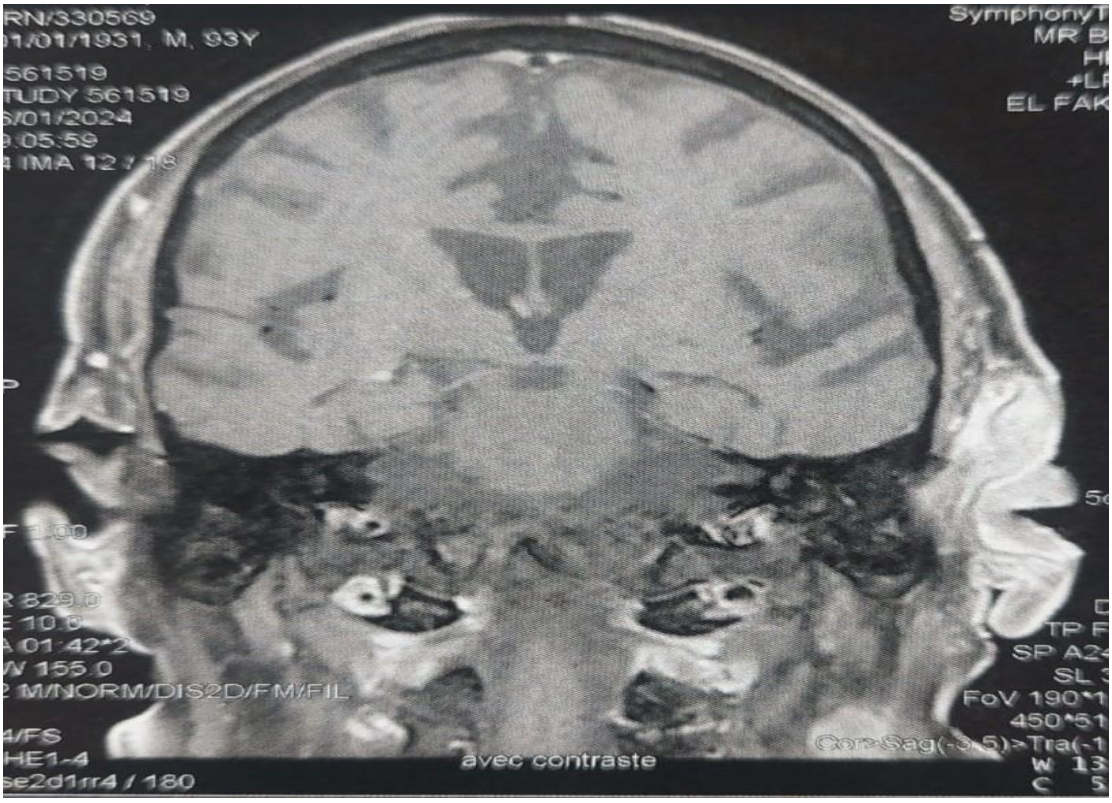

Fig. 3: Coronal T2 MRI sequence showing filling of the left external auditory canal with isosignal.

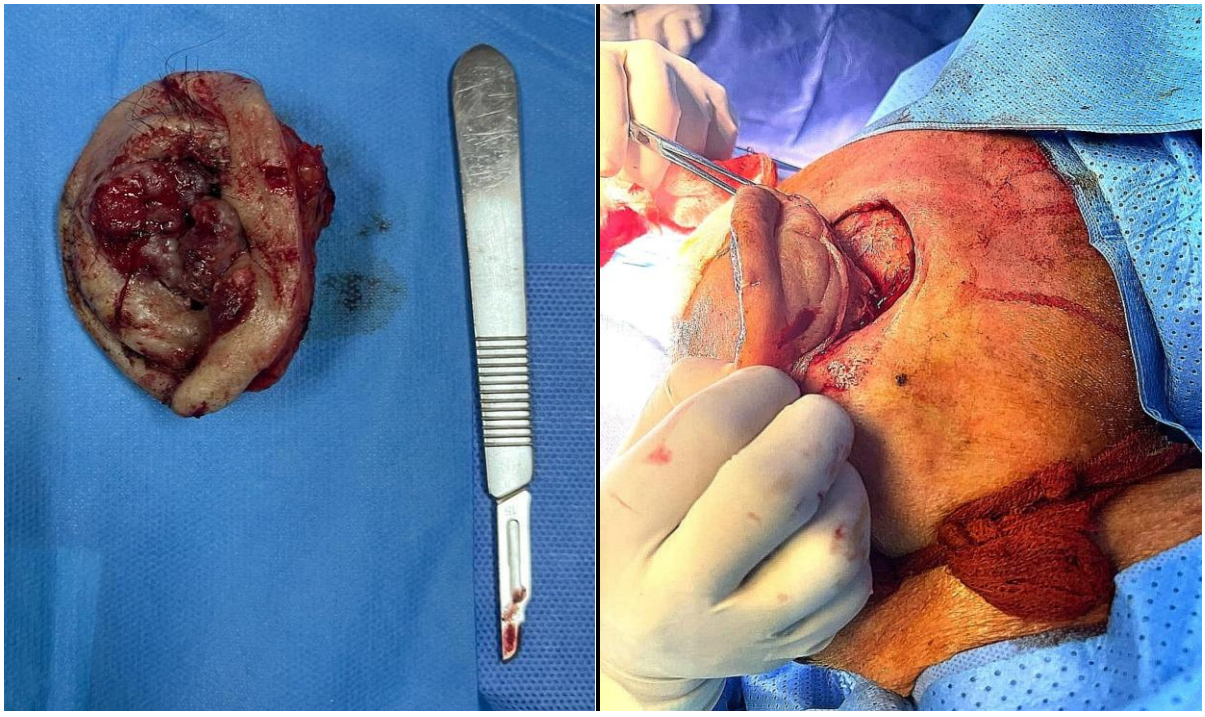

Fig. 4: Intraoperative image showing excision of squamous cell carcinoma of the outer ear.

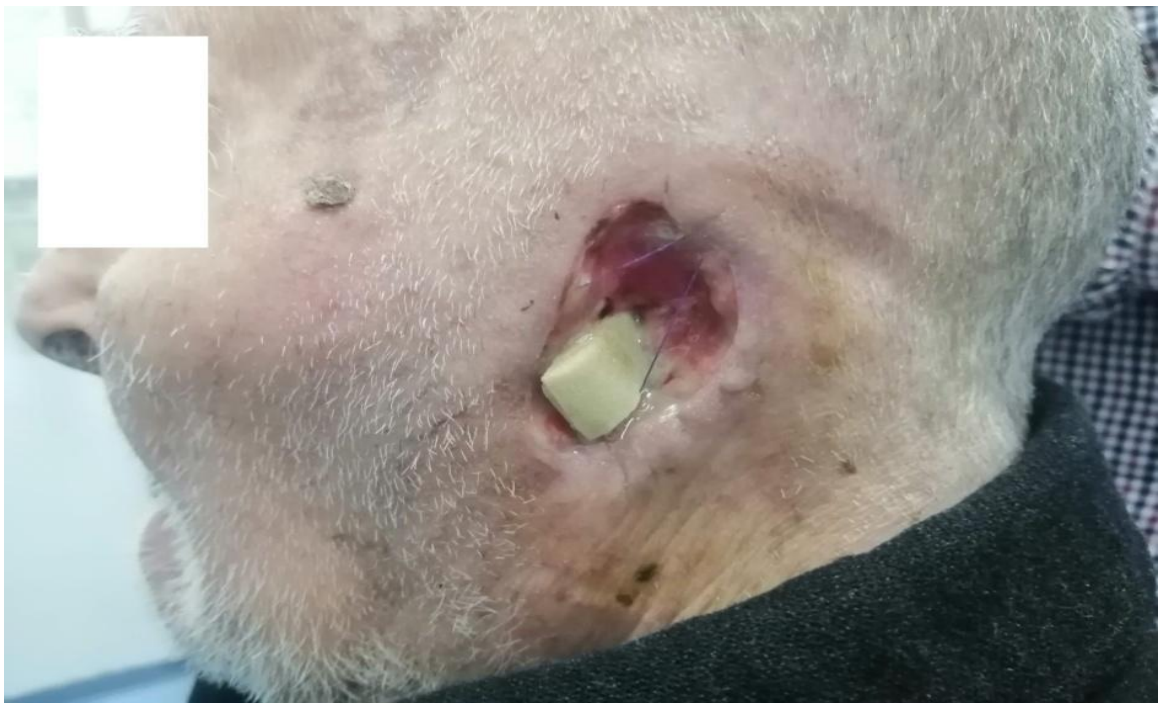

Fig. 5: Image of the surgical site after one week showing favorable progress and the beginning of guided healing.

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