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Pontocerebellar Angle Extension of a Basal Cell Carcinoma of the Scalp Followed by Ipsilateral Acoustic Neurinoma – A Case Report

Bazaliom s propagací do mostomozečkového koutu asociovaný s ipsilaterálním neurinomem akustiku – kazuistika

Summary

The intracranial invasion of basal cell carcinoma of the scalp is rare. We have presented a case of a woman who developed destructive basal cell carcinoma (ulcus terebrans) with the full thickness skull destruction spreading into the left pontocerebellar angle associated with ipsilateral acoustic neurinoma

Souhrn

Intrakraniální invaze bazaliomu se vyskytuje vzácně. Autoři uvádějí případ ženy, u které destruktivní bazaliom (ulcus terebrans) ničící celou tloušťku lebky a šířící se do levého mostomozečkového úhlu, souvisel s ipsilaterálním neurinomem akustiku.

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Introduction

Basal cell carcinomas with the incidence of 60 % to 75 % are the most commonly found cutaneous malignant neoplasms [1]. This skin cancer is considered to arise from pluripotentional cells of the epidermis [2]. They are usually slow-growing locally aggressive tumors that progressively enlarge and spread by peripheral extension. In some cases they appear as a very aggressive variety. The treatment of choice is a total resection of the tumor followed by histopathological evaluation of the resected area. In some cases an adjunctive irradiation therapy is indicated. If these tumors are untreated or treated inadequately they occasionally metastasize to regional lymph nodes or distant sites [3].

Acousticus neurinomas are a benign tumor of CNS accounting for 6 to 8 % of all intracranial neoplasms. They arise within the internal auditory canal, from the superior vestibular nerve and are composed of Schwann cells. Initially compressing to the cochlear nerve, slowly progressive in growth, the tumors expand into cerebellopontine angle and with time the adjacent cranial nerves may be affected. Unilateral hearing loss, tinnitus and vertigo are the most common symptoms. The treatment of choice is total microsurgical resection.

We report the case of a woman who presented an extensive basal cell carcinoma of the scalp with intracranial propagation into pontocerebellar angle, associated with acoustic neurinoma on the same side.

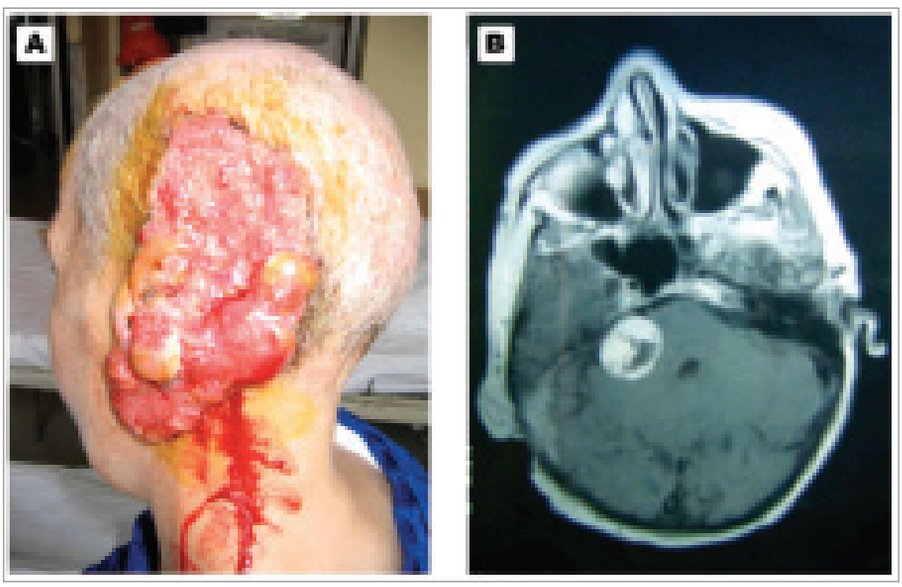

Figure 1. A. Advanced ulcerated lesion with extensive local invasion and spontaneous bleeding ("ulcus terebrans"). B. Magnetic resonance T1-weighted axial image showing pontocerebellar enchancements.

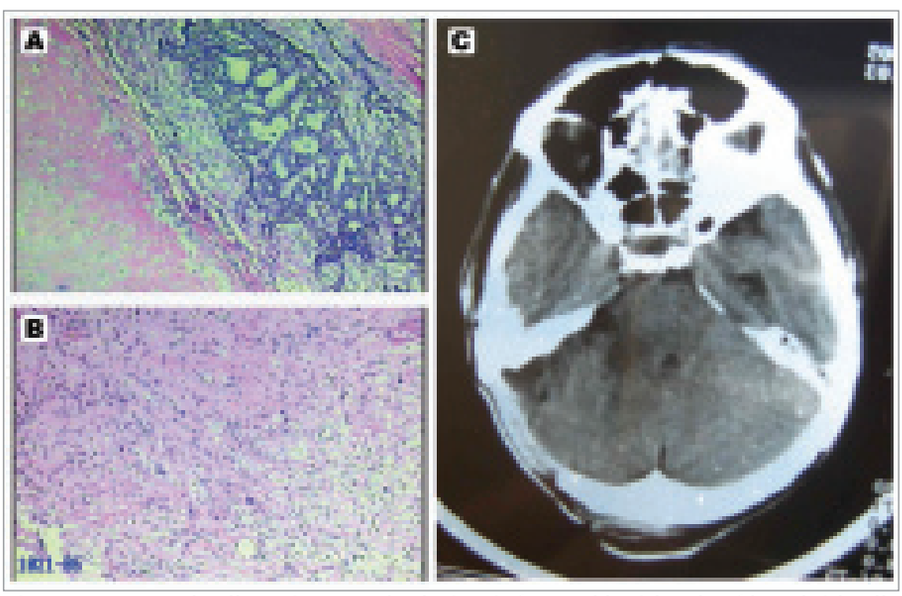

Figure 2. A. Basal cell carcinoma- the lesion is formed by islands of basaloid cells infiltrating the deep dermis and hyaline cartilage of external ear (H-E x 250); B. Schwannoma – tumor is composed of characteristic Antoni A (upper right) and Antoni B (lower left) components (H-E x 250). C. The contrast-enchanced CT scan obtained at discharge from the hospital demonstrated a total resection of pontocerebellar masses.

Case report

History

This 59-year-old woman admitted to the neurosurgical department on November 2005, complaining of 1-year history of discrete hearing loss on the left side. She had suffered from dizziness and headache four months before admission to the hospital. Ten years prior to admission she had been observed a small skin ulceration at the left retroauricular region. This lesion enlarged progressively in time but was not treated. She was living in a village hiding her disease under a scarf.

Examination

On admission to our hospital we observed an extensive destructive and bleeding lesion of the scalp at the patient's left suboccipital, superior nuchal, and retroauricular regions including a total destruction of the left ear (Fig. 1-a). Checking of the regional lymph nodes showed no invasion. Neurological examination revealed only moderate hearing loss on the left side. Audiological examination was not performed by reason of the local finding. The laboratory tests revealed chronic anemia. Histological examination of the biopsy specimens from the epicranial tumor showed invasive basal cell carcinoma.

The MRI imaging demonstrated an extensive destructive lesion of epicranial soft

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tissues of the left retroauricular and suboccipital regions following full thickness skull destruction and neoplastic invasion of the meningeas with spreading into the pontocerebellar angle. The additional finding was a well-demarcated enhancing mass in the same pontocerebellar angle, close to the brain stem, with displacement and compression of the forth ventricle (Fig. 1-b).

Operation

The goal of the surgery was that the neurosurgeon assisted by the plastic surgeon operates both tumors at once. The patient underwent a total resection of the scalp tumor, with removing of all affected tissue up to dura matter. With the removal of the invaded suboccipital bone a wide suboccipital craniectomy was performed. This was followed by a resection of the invaded dura and subdural spreading of the tumor. The wall of the sigmoid sinus was not affected. Finally, a microsurgical total resection of the pontocerebellar tumor was done. Dura was plastificated by Lyodura, while skin closure was performed with the assistance of the plastic surgeon. Extensive resection of the tumor of the scalp required the use of free flaps for coverage as the only possibility.

Postoperatively she experienced an excellent recovery without any neurological disturbances. The contrast-enhanced CT scan obtained at discharge from the hospital, demonstrated a total resection of pontocerebellar masses (Fig 2-c). Surgery was followed by adjunctive irradiation.

Pathological Findings

Histological investigation of intracranial spreading of the epicranial tumor confirmed the invasive basal cell carcinoma (ulcus terebrans) (Fig. 2-a).

On histological examination, the large pontocerebellar mass was found to be neurinoma s. schwannoma (Antony A and B type, WHO gradus I) (Fig. 2-b).

Discussion

Basal cell carcinoma may be manifested clinically in many forms. The most malignant one is ulcus terebrans. It starts as ulcus rodens (late phase of nodulourcerative form) and then infiltrates and destructs all tissues including the brain [4].

Intracranial invasion by a basal cell carcinoma of the scalp is rare. In the literature are reported few cases of a large basal cell carcinoma of the scalp invaded through the meningeas and followed by cerebral involvement [5,6,7,11,12]. In some cases even a lethal outcome was reported [8].

Our patient had an extensive basal cell carcinoma of the scalp following full thickness skull destruction and neoplastic invasion of the meningeas with subdural spreading into pontocerebellar angle. In the same pontocerebellar angle a large, a well delineated tumor was revealed. On the basis of initial neuroimaging (CT scan) it was not possible to distinguish whether it was the propagation of primary epicranial malignant tumor, more frequently found in literature [5,6,7,8,11,12], haematogenous metastasis of malignant skin tumor, also found in literature [13], but rare, or two isolated tumors, different by histology and prognosis, only originating in close region. The last case failed to be found in available literature.

Although we believe that this may represent a simple coincidence, it seems interesting that two such different tumors developed in so close areas. There are only a few reported cases of association of basal cell carcinoma and other tumors in the some patient [9,10].

Conclusion

As far as we know, for the time being, there has been no similar intracranial invasion to pontocerebellar angle basal cell carcinoma of the scalp followed by ipsilateral acoustic neurinoma presented in literature, as we dealt with in the previous report.

We believe this report to be potentially useful in preoperative concluding in cases with extensive malignant skin tumors with intracranial invasion (such as basalioma or planocellular carcinoma of the head), in which we need to suspect the existence of two different entities in the same region, and consider radical surgical intervention, rather than presume malignant propagation and less radical attitude.

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